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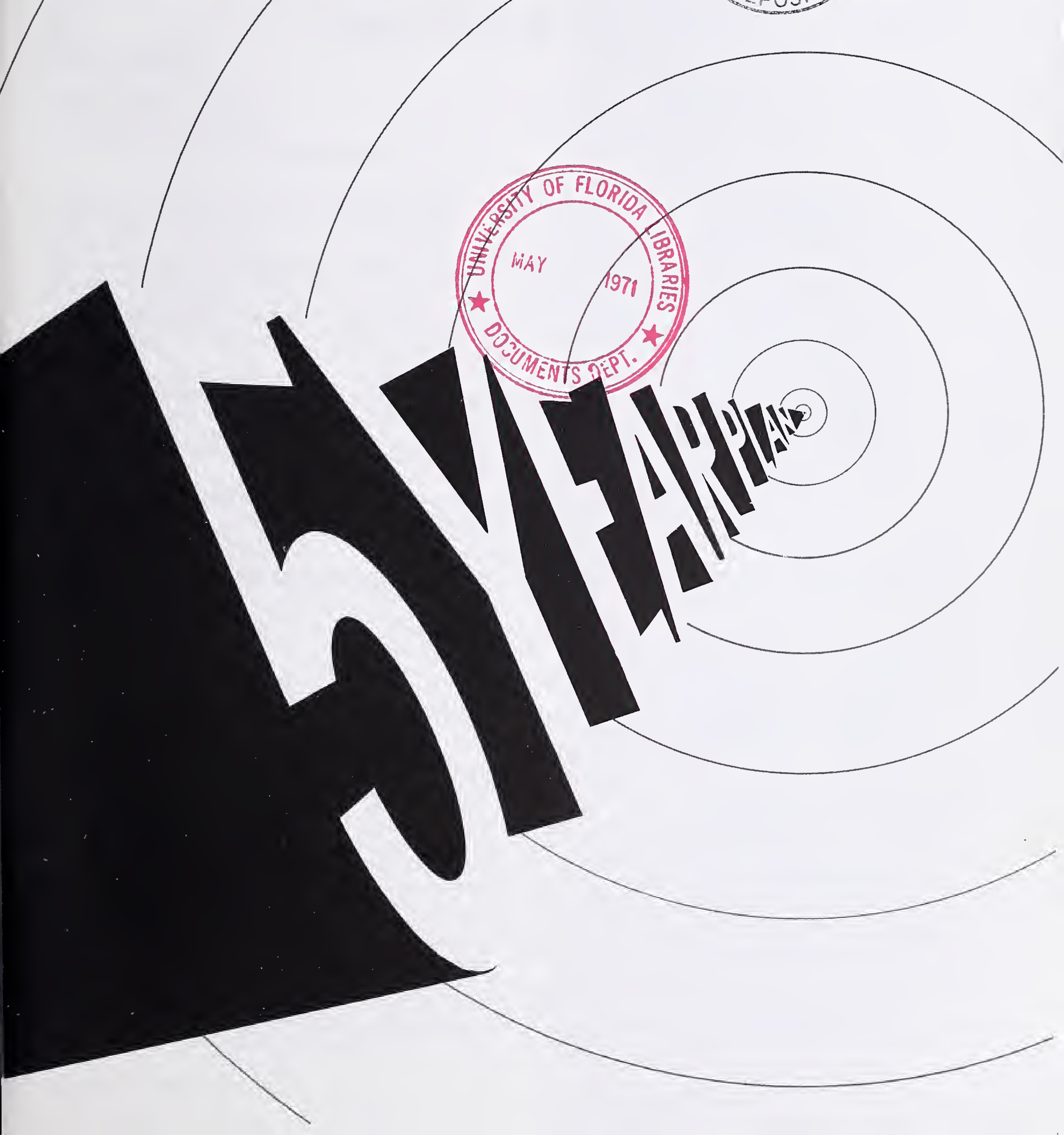

DEFENSE INDUSTRY BULLETIN

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The *Bulletin* serves as a means of communication from the Department of Defense and its components to actual or potential defense contractors, labor and other interests. It provides information and guidance on official policies, programs, procedures, activities and developments concerning the management of research, development and acquisition of equipment, supplies and services needed in the national defense effort. It seeks to stimulate thought by the defense-industry team in solving problems allied to the defense effort.

The *Bulletin* is distributed free of charge to qualified representatives of DOD components, industry, labor and other persons engaged in the defense-industry relationship. Subscription requests should be submitted on organization letterhead, and must indicate the organization's and requestor's participation in the defense-industry relationship. Send requests to: Editor, Defense Industry Bulletin, Defense Supply Agency, Cameron Station, Alexandria, VA 22314.

Suggestions concerning possible subjects for future issues are welcome and should be sent to the Editor.

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Defense Budget Highlights

Editor's Note: This article is a condensation of the statement of Secretary of Defense Melvin R. Laird on the FY 1972–1976 Defense Program and the FY 1972 Budget. The statement was delivered to the House of Representatives Armed Services Committee on March 9, 1971.

Secretary Laird's statement has been edited to include in the *Defense Industry Bulletin* those portions which are considered to be of special interest to defense industry.

The complete text of this statement is available for purchase from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402. Order number is D1.2:B85/972, titled, "Defense Secretary Melvin Laird's Defense Program and Budget, FY 1972," price $2.

This Five-Year Defense Program is keyed to the twin objectives set forth by President Nixon for the last third of the 20th century:

- Achievement for the first time in this century of a generation of peace.
- In the process, enhancement of the quality of life for all Americans, while helping to improve it for all peoples of the world.

This 1972 Defense Report to Congress and the American people contains a Five-Year Defense Program which spells out a new National Security Strategy of Realistic Deterrence. This new strategy is designed to prevent wars by furthering the President's goal of building a viable structure of peace based on adequate strength, true partnership, and meaningful negotiations.

The Strategy of Realistic Deterrence seeks to further the goal of peace by deterrence of armed conflict at all levels. . . . I believe the strategy we are advancing is realistic for three reasons:

First, it is based on a sober and clear view of the multiple threats to peace which exist in today's world. It neither exaggerates nor underestimates those threats.

Second, it provides for the maintenance of a strong Free World military capability as the essential foundation of deterrence. It rejects the view that peace is well served if our military power is unilaterally weakened.

Third, it takes account of the strategic, fiscal, manpower and political realities while steering a prudent middle course between two policy extremes—world policeman or new isolationism.

The Strategy of Realistic Deterrence is new. Those who would dismiss it as a mere continuation of past policies in new packaging would be quite mistaken. Past policy was responsive and reactive. Our new Strategy is positive and active. Past policy focused on containment and accommodation. The new Strategy emphasizes measured, meaningful involvement and vigorous negotiation from a position of strength.

The Strategy of Realistic Deterrence will provide through sufficient strength and full partnership the indispensable and realistic basis for effective Free World negotiation. Most importantly, it is designed not to manage crises but to prevent wars.

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In the report, we focus on two fundamental aspects of defense planning:

- Effective Implementation of the Strategy of Realistic Deterrence.
- Better Management of Human, Material, and Economic Resources in the Department of Defense.

* * * * *

Toward a Strategy of Realistic Deterrence

Strategy Overview. Our Five-Year Defense Plan projects a capability to attain our goal with an efficient and modernized force that, in peacetime,

Melvin R. Laird
Secretary of Defense

would require no more than 7 percent of Gross National Product and be made up of no more than 2.5 million men and women who are volunteers. In essence, a realistic military strategy cannot be an end in itself but must be inseparably linked with a broader national strategy of deterrence and meaningfully related to our pressing requirements in the domestic field.

Concepts for Defense Planning. We intend to use a Total Force approach in which all appropriate resources for deterrence, U.S. and Free World, will be available. Through the application of all resources across the full spectrum of possible conflict and full spectrum of capabilities of our friends and allies, we will maintain sufficient U.S. strength and will mesh this strength with other nations in a new order of partnership.

For the U.S. forces, the Total Force concept will mean increased importance for our National Guard and Reserves. . . . Looking to the future, we must continue to focus on the intimate relations of the military, economic, political and diplomatic facets of the Indochina situation as we move to terminate U.S. involvement in the fighting. . . . To be realistic about it, there will continue to be ups and downs, gains and losses, temporary setbacks. The important thing is for the citizens of our nation to keep in sight the fixed goal of a generation of peace and to ensure, as best we can, that the policies we establish and the strategy we follow lead in that direction.

Threats to Free World Security. The continued momentum of the Soviet Union in strategic missiles, aircraft, naval forces, and research and development, as well as Chinese weapons progress, are evaluated. This threat assessment is related to the need for assuring that the United States maintains its technological leadership in order to assure the safety and survival of the American people. To maintain technological leadership, we must reverse the recent downward trend in research and development funding, which this Budget does, and we must also move forward with new technological initiatives to guarantee that we have flexibility and timely options to meet possible threats of the future.

Force Planning under the New Strategy. Specific programs [are] being recommended as the basic minimum capabilities deemed necessary and appropriate for the years ahead. We have completed our transition to what we describe as "base line planning," and are now building for the future. Of course, much will depend on the outcome of the Strategic Arms Limitation Talks (SALT). Because of uncertainty associated with SALT, we must maintain present capabilities, while preserving or creating options to adjust those capabilities upward or downward as may be required.

No one hopes more for success at SALT than the Defense Department because of the burdens and responsibilities we would face should SALT fail. . . . The Safeguard program continues to be a vital factor in the SALT negotiations.

Toward Better Management of Human, Material and Economic Resources

Organization and Management. Our management concept is based on participatory decision making, defined decentralization, and delegation of authority under specific guidance. I propose the creation of an additional Deputy Secretary of Defense in order to enhance high-level civilian management, and to cope with the severe time demands now placed upon the single Deputy Secretary of Defense, David Packard. I also recommend creation of two additional positions for Assistant Secretary of Defense [Telecommunications and Intelligence]

We will continue, of course, to make management improvements in the Defense Department, including a modification of the Unified Command structure which we are recommending to the President. We will continue to draw as appropriate on the recommendations of the Blue Ribbon Defense Panel.

Our examination into the intelligence activities of the Defense Department will continue, and further changes may be anticipated, including the creation of a long-range planning group reporting directly to the Secretary of Defense. We have taken steps also to strengthen civilian control over investigative and related counter-intelligence activities.

Manpower Objectives. Of particular importance, of course, is our program to achieve zero draft calls by mid-1973 and to accomplish further improvements of the Selective Service System which would complement last year's reduced draft calls and National Random Selection System. Many inequities in the Draft have been eliminated in the past two years, but so long as we need the Draft it must be made more equitable. . . .

Let me candidly tell you that we face some formidable problems in the manpower area that are not going to be solved overnight. . . . We in the Defense Department are determined to continue leading the way, as best we can, in seeking solutions to these difficult problems.

The Defense Budget and the Economy. The impact of the massive cuts that have been made during the last two years in employment and expenditures related to national defense is assessed. These cuts have resulted in a considerable amount of turbulence, which results from our shift from a wartime to a peacetime economy.

This year the rate of defense reductions is declining and we are going to do everything we can to keep to a minimum this turbulence, as it relates to our civilian employees, defense industry employees, and our military people and their families. In short, the Defense Budget has been heavily affected in our national reallocation of resources. The period of Defense dominance in national resource allocation is over. Our FY 1972 Budget, in constant dollars, will be below the prewar year of FY 1964. This fact cannot be ignored as we plan to implement during the next five years our new Strategy of Realistic Deterrence.

In current dollars, the FY 1972 Defense Budget transmitted to the Congress by the President totals $79.2 billion in Total Obligational Authority (TOA) and $76 billion in outlays, including amounts proposed for future pay increases. This is $3.9 billion in TOA and $1.5 billion in outlays above the respective amounts for TOA and outlays we now expect in FY 1971.

Toward a Strategy of Realistic Deterrence

Strategy Overview

In his first Report to Congress on Foreign Policy, on Feb. 18, 1970, President Nixon enunciated a policy of peace and what is needed to achieve it. Based on the principles of partnership, strength, and a willingness to negotiate, this positive policy is designed to move our country and the rest of the world toward a generation of peace. This basic policy, reaffirmed in the President's second Report on Foreign Policy, on Feb. 25, 1971, underlies and guides our new National Security Strategy of Realistic Deterrence.

The goal of peace and the need to maintain adequate combat capabilities are fully consistent. The President recognized this when he declared adequate strength to be one of the three pillars of his foreign policy; without adequate military power our nation could not attain or maintain peace.

The Defense Department Five-Year Program for FY 1972–FY 1976 is keyed to the goal of preventing war and securing peace.

Security Policy and Strategy in Perspective

The security a nation enjoys at any given time is, in great part, the result of past efforts, particularly in the area of technology. The United States and other free world nations clearly enjoy greater security today than they would if the tremendous efforts of the past 20 years had not been made.

In the past two decades we achieved first place in nuclear capability, became pre-eminent in space, and substantially strengthened our conventional capabilities. Our military power was an important factor in preventing aggression and safeguarding peace in many parts of the world, notably Europe. However, it did not prevent aggression in Indochina.

One problem was that national security policies during the past decade did not focus sufficiently on lowering the probability of *all* forms of war through deterrence of aggressors. The effect of these policies on military planning was to create forces that lowered the probability of nuclear war while stressing a growing U.S. military capability to engage and to fight in other types of conflict.

That this military capability proved not to be an effective deterrent was due to a second major problem in national security planning. This was the failure to correlate closely and fully military strategy, national security strategy, and foreign policy, which embrace all elements of effective deterrence—non-military as well as military.

This Administration believes—and this is the foundation of President Nixon's Strategy for Peace—that our central national security objective is the prevention of war, and the movement toward a generation of peace. A realistic military strategy for the decade of the 1970s cannot be permitted to become an end in itself. It must be an inseparable part of a broader national strategy of deterrence, and meaningfully related to our pressing requirements in the domestic field.

* * * * *

Prelude to the 1970s

When the Nixon Administration assumed office in January 1969, it was clear that our complex national security problems demanded a basic rethinking of the existing policies in the light of changing world and domestic conditions. It was clear that new directions were needed.

At least seven factors, taken together, indicate that the economic, political, military, and manpower realities existing now are significantly different from the situation just five years ago. These factors are:

- A growing Soviet military capability and technological momentum.
- An expanding Soviet influence around the world, as evidenced by worldwide deployment of its growing naval forces.
- An emerging Chinese Communist nuclear threat.
- The reordering of national priorities, with a reduced percentage of Gross National Product for defense spending.
- Sharply rising U.S. personnel costs and a start toward Zero-Draft and an All-Volunteer military force.
- A changing world economic environment because of vigorous growth, particularly among Free World nations.
- An increasing awareness among NATO members of the need for burden sharing and among many of our Asian friends of the need for regional support.

Confronted with this changing environment, we concluded after careful analysis in the National Security Council that we must, whatever else, assure the following criteria in national security planning for the decade of the 1970s:

- Preservation by the United States of a sufficient strategic nuclear capability as the cornerstone of the Free World's nuclear deterrent.
- Development and/or continued maintenance of Free World forces that are effective, and minimize the likelihood of requiring the employment of strategic nuclear forces should deterrence fail.

- An International Security Assistance Program that will enhance effective self-defense capabilities throughout the Free World and, when coupled with diplomatic and other actions, will encourage regional security agreements among our friends and allies.

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Strategy of Realistic Deterrence

As Secretary of Defense, my primary responsibility is to address those aspects of the President's Foreign Policy which bear directly on the defense programs and defense strategy of this nation.

* * * * *

Turning to the defense posture and force aspects of this strategy, . . . I would point out that whatever the outcome of Strategic Arms Limitation Talks (SALT), our strategic forces will remain the cornerstone of the Free World's deterrent against nuclear attack and must always be sufficient for this crucial role. While assuring an adequate deterrent at the strategic and tactical nuclear level, we and our allies also need to maintain strong conventional capabilities. Hence, for those levels in the deterrent spectrum below general nuclear war, the forces to deter Soviet and Chinese adventures clearly must have an adequate warfighting capability, both in limited nuclear and conventional options. This has been reaffirmed during the past two years by a comprehensive reexamination, together with our allies, of our national and our multilateral deterrent capabilities, most especially NATO's historic review of Alliance Defense for the 1970s (AD–70).

As we move toward the President's goal of peace in the decade of the 1970s, the deterrent to localized conflict apart from large-scale Soviet or Chinese attack, increasingly will be provided by allies and friends who themselves have a capability and national will to defend themselves. Local security would be further enhanced by regional defense arrangements which provide and take advantage of shared capabilities.

Regional Variations. Obviously, no single strategy can be applied in the same exact terms to situations which are sharply different. Therefore, we must fashion the elements of our Strategy of Realistic Deterrence to match the various conditions we find in different regions. Let me cite several factors briefly, which I will discuss later. . . .

In NATO/Europe, U.S. national security strategy for the 1970s must include the objective of maintaining a strong NATO deterrent in Western Europe, including its northern and southern flanks, against a wide range of possible Soviet and Warsaw Pact initiatives, short of strategic nuclear exchanges. Such initiatives could span a continuum, from border incursions and military-backed political threats to a full-scale conventional or tactical nuclear attack, including conflict at sea.

In Asia, our continuing nuclear superiority *vis-a-vis* the Chinese can contribute significantly to deterrence of Chinese nuclear attacks, or conventional attacks on our Asian allies, and would be strengthened further with an area ballistic missile defense effective against small attacks. However, there is a need for our Asian friends and allies to strengthen their conventional forces, both to defend themselves against non-Chinese attacks and, in regional conjunction, to build a defensive capability which would give Communist China increased pause before initiating hostilities. At the same time, we will maintain adequate forces to meet our commitments in Asia.

It is not realistic or efficient to expect each country to develop an independent self-defense capability against all levels of non-Chinese and non-Soviet attack. The drain on allied manpower and on their economies would inhibit the achievement of economic growth and, therefore, the political stability which is essential to military security. At the same time, deep historical, social and political inhibitions to immediate and effective regional mutual security arrangements in some areas must be recognized. Thus, a careful balance must be achieved between independent capabilities and collective arrangements. One of the most important means available to the United States to stimulate and to help aid in the development of these capabilities and arrangements is the provision of appropriate security assistance to our allies.

This strategy involves a shift in the direction U.S. foreign and security policy has taken over the past 10 years. Successful application of the President's Strategy for Peace requires a coordinated application of all foreign policy resources—military power, diplomacy, military and economic assistance, and foreign trade—and most importantly, the understanding and strong support of Congress and the American people.

* * * * *

Concepts for Defense Planning

Planning in the revised and revitalized National Security Council context now takes into account all assets available for achieving foreign policy objectives. The goals we seek for the enhancement of American and world interests—peace, freedom, social, economic and political development, broadening opportunities—obviously cannot be achieved by means of direct military power alone.

The basic objective of our Strategy of Realistic Deterrence is to prevent armed conflict and ultimately to eliminate its use as a means by which one nation tries to impose its will upon another. But so long as the threat persists that other nations may use force, adequate military power must remain an essential element of Free World strategy.

In defense planning, the Strategy of Realistic Deterrence emphasizes our need to plan for optimum use of all military and related resources available to meet the requirements of Free World security. These Free World military and related resources—which we call "Total Force"—include both active and reserve components of the United States, those of our allies, and the additional military capabilities of our allies and friends that will be made available through local efforts, or through provision of appropriate security assistance programs.

Total Force Approach

In considering the spectrum of potential conflict, we will be guided by the following principles in our defense planning:

- In deterring *strategic nuclear war*, primary reliance will continue to be placed on U.S. strategic deterrent forces.
- In deterring *theater nuclear war*, the United States also has primary responsibility, but certain of our allies are able to share this responsibility by virtue of their own nuclear capabilities.
- In deterring *theater conventional warfare*—for example, a major war in Europe—U.S. and allied forces share the responsibility.
- In deterring *sub-theater or localized warfare*, the country or ally which is threatened bears the primary burden, particularly for providing manpower; but when U.S. interests or obligations are at stake, we must be prepared to provide help as appropriate through military and economic assistance to those nations willing to assume their share of responsibility for their own defense. When required and appropriate, this help would consist essentially of backup logistical support and sea and air combat support. In some special cases, it could include ground combat support as well.

Moreover, U.S. involvement in world affairs is not based exclusively on our alliances, but rather our formal and informal obligations derive from and are shaped by our own national interests. To protect our interests, we must insure free use of international air space and free access to the world's oceans. Thus, our future defense planning must also insure a U.S. capability to prevent an effective challenge to free use of international air space and the oceans of the world.

* * * * *

In summary, through application of all resources across the full spectrum of possible *conflict* and the full spectrum of *capabilities*, we intend to maintain sufficient U.S. strength and to mesh this strength with that of other nations in a new order of partnership. If we are to achieve a lasting peace, we must work together to deter aggression, to prevent war.

We will apply the Total Force Concept in non-NATO areas as well. The President stated in his Foreign Policy Report to Congress last year, in a passage with particular application to Asia, that our friends and allies must bear an increasing responsibility for their own defense.

* * * * *

Total Force Planning and International Security Assistance

The challenging objectives of the Nixon Doctrine can be achieved, as I reported to the Congress last year, only if we and our allies both contribute to their achievement.

Each nation must do its share to contribute what it can appropriately provide: manpower from many of our allies; technology, material, specialized skills from the United States. By furnishing the materiel and related training support essential to develop and maintain such forces, the International Security Assistance Program serves as a key instrument of the Nixon Doctrine. It is for these reasons that security assistance assumes new importance for initiatives in the area of national security and foreign policy, through which the Administration seeks to reduce both the total cost of an adequate defense posture and our overseas involvement.

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Many willing and potentially helpful friends and allies simply do not have the resources or technical capabilities to assume greater responsibility for their own defense. Unless we help them, the basic policy of diminishing the need for direct U.S. military involvement without impairing Free World security, cannot be successful.

The better equipped our friends and allies are to provide for their own security, the more firm will be our own security. This is so because the probability of war and of U.S. involvement in war will be lowered.

An effective security assistance program can allow an increasing replacement of U.S. forces—particularly ground combat forces—with local forces. A vigorous and successful security assistance program can also help achieve a period of more meaningful negotiations and a less dangerous world environment as part of the program to attain our objectives: lasting peace and expanding freedom—that is our hope and that is our goal.

New Initiatives To Support Realistic Deterrence

The Strategy of Realistic Deterrence calls for new initiatives and concepts to complement Total Force planning. Some of these initiatives will fall in areas where the United States bears the primary responsibility, while others will stem from closer integration of our planning with that of our friends and allies. Some may more properly be called new directions or redirections of effort, rather than initiatives. Regardless of what they may be called, we believe they are necessary—to modernize our forces, reshape them to future environments, and to provide for our security.

U.S. Force Planning Initiatives. The Free World relies on U.S. strategic forces as the cornerstone of its deterrent. As President Nixon has stated, our strategic force policy is one of sufficiency. In addition to our diplomatic initiative in SALT, we believe that it is appropriate to explore a range of new concepts for future strategic force planning. Depending on progress in SALT or the growth in the military threat, particularly from the Soviet Union, we may or may not need to implement some of these concepts. But I believe it is only prudent that they be examined now.

Another difficult area in planning our forces for the future is the range of potential crisis situations which may require positioning of general purpose forces. In the past, these forces have been designed primarily for sophisticated conventional theater warfare, although provisions were included for minor contingency and limited war conflict situations. We are investigating possible modifications to selected portions of our existing forces, both to enhance overall capabilities and to improve the responsiveness of our forces.

One major step we have taken is our new policy with respect to Reserve Forces. Members of the National Guard and Reserve, instead of draftees, will be the initial and primary source for augmentation of the active forces in any future emergency requiring a rapid and substantial expansion of the active forces.

Lower sustaining costs of non-active duty forces, as compared to the cost of maintaining larger active duty forces, make possible a greater flexibility in planning the Total Force structure. This lower cost of non-active forces allows more force units to be provided for the same cost as an all-active force structure, or the same number of force units to be maintained for lesser cost. However, it also requires that the capability and mobilization readiness of Guard and Reserve units be promptly and effectively enhanced. We are taking steps to do so, . . .

Other instances of more efficient use of existing forces are being pursued by the Services. For example, the Army is planning to form and test a tri-capability (TRICAP) division at Fort Hood, Tex., with an armor, an airmobile, and an air cavalry combat brigade—to facilitate incorporation of these separate capabilities into one division. The Navy intends this year to test a "CV concept" for a dual antisubmarine warfare (ASW) and attack aircraft capability aboard our carriers, while retaining the ability to operate either in a full ASW or a full strike mode as appropriate to the circumstances. This concept could increase significantly carrier-operating flexibility. The Air Force is proceeding with procurement of air-transportable "bare base" support sets to enhance their capability for rapid deployment of tactical air forces to austere bases.

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U.S. Technology Base and Technological Initiatives. An adequate research and development, or technological, effort remains a most crucial element of our overall defense program. In addressing technological requirements, it is important to distinguish between force levels, which basically establish the overall size of the annual defense budget, and the character and quality of the force, which is decided for future years by current Research, Development, Test and Evaluation (RDT&E) expenditures.

If it becomes necessary, we can mobilize the manpower and production potential of this country in a relatively short period of time. Everyone must understand that we cannot similarly improve overnight our technological base. This technological capability will only be available when needed if it is maintained, encouraged, and appreciated now as an essential national asset. Recent reductions in technological areas already have seriously affected our ability to sustain essential technological leadership.

It is not possible for DOD to provide for our security with a constant or falling level of U.S. research and development effort in the face of the expanding military research and development effort being pursued by the Soviet Union. I do not know at this time what levels of research we will require by 1975 or by 1980; they will depend on what course the Soviets choose to follow. But I do know that for FY 1972 we must increase our technological effort, particularly as we reduce the size of our active military force.

More specifically, there are a number of areas in which we feel we must now move more rapidly than in the past. In each of these areas we are requesting increases in funding for FY 1972, and in several cases we are already requesting the use of emergency funds and reprogramming authority to accelerate effort in the remaining months of FY 1971.

Before highlighting these requests for an extra technological effort in FY 1972, it would be useful to examine why it is that with our current lower force and equipment levels we have chosen to increase our research and development effort in FY 1972 by some 12 percent over FY 1971. There are six major reasons for this increase:

- To avoid the loss of technical superiority to the Soviet Union.
- To reduce the number of instances—such as Sputnik in 1957—that we could expect to be surprised technologically by the Soviet Union in the next few years.
- To create and maintain additional flexibility in our strategic deterrent forces.
- To evolve the concepts and weapons necessary to preserve and enhance our ability to control the seas.
- To improve the ability of our land and air forces to cope with rapidly improving Soviet forces.
- To develop simpler and less expensive weapons to assist our allies and increase the efficiency of our own capabilities.

Maintaining technological leadership is also important because it will enable us to anticipate an opponent's developments from fragmentary intelligence and may help to design a prompt counter to these developments. And, of course, technological leadership is essential for a rapid response to unexpected operational requirements.

We recognize that these factors, even when considered together, cannot enable us to determine the precise size of the research and development program required for this country's defense needs. But without a strong technology base, we would not be able to recognize or take advantage of new developments. Clearly, the objective of maintaining our technological leadership requires more than a minimum sustaining effort. Such an effort would, in fact, guarantee a loss of technological leadership.

Last fall, we conducted an intensive review of existing programs, management, and potential developments which might be pursued in the area of technology. From this review, we concluded that besides shifting emphasis on certain ongoing programs, we needed to embark on a path that would provide an array of new initiatives in our development efforts which could lead to new capabilities in our military programs.

I will mention some of the programs which we have developed or are developing. Programs contained in the FY 1972 Defense Budget include initiatives in all major mission categories. We have identified and are requesting approximately $300 million in the FY 1972 Budget for research and development to pursue these other "initiative" programs which could provide us with improved capabilities in the future. I wish to emphasize that we have made no commitment to production of specific systems, but we feel it is essential to expand our ongoing research and development effort in this way to preserve and expand our flexibility for future production should such systems be needed.

In the strategic area, we are exploring several concepts which will be discussed later.

In our ability to control the seas and project our forces abroad, we are:

- Pursuing a broad program in the area of ocean surveillance using manned aircraft, and surface and underwater sensor systems.
- Improving the communication capability of our fleet by means of satellites and underwater sound communication systems.
- Accelerating the development of surface-to-surface missile capability for our ships.
- Investigating possible vertical/short takeoff and land (V/STOL) aircraft configurations and missions applicable to the air capable ship (ACS) now in the conceptual stage of planning.
- Accelerating development of very high-speed ship capabilities by proceeding with hydrofoil craft of increased size and speed for use as missile attack ships, and by commencing model testing and design competition for a multi-ton experimental research and development surface effect ship.

In the area of land warfare, we are:

- Increasing our attention to the problems of the individual soldier in an effort to make him more effective, more mobile, and less vulnerable to both ground and air attack when operating in varied environments.
- Developing more accurate missiles and artillery to support our tactical forces.
- Proceeding to develop less vulnerable helicopters with better surveillance capability.
- Increasing our efforts in the area of suppression of anti-aircraft fire and surface-to-air missile defenses.
- Improving the accuracy and standoff capability of aerial delivered munitions.
- Increasing our efforts to provide our forces with the capability to locate and identify a wide range of hostile radar targets with sufficient confidence to attack and destroy them without subjecting our aircraft to the dangers inherent in visual target identification.

Force Planning with Our Allies. The concept of force planning with our allies is not new; it is our objective to revitalize and improve this important military contribution to Free World security.

In NATO planning, the United States must fully and effectively pursue detailed and integrated long-range planning and actions—including research and development, procurement, training and operations—that are appropriate for a total-NATO force. Our recent efforts represent major steps in the direction of making sure that NATO forces indeed do constitute a realistic deterrent to Warsaw Pact aggression.

I believe that three items of particular significance emerged from the NATO Ministerial meetings in Brussels last December. First, the Ministers approved the NATO AD–70 Study accomplished over the preceding six months. It highlighted the need for more conventional deterrence and pointed out specific inadequacies in existing NATO capabilities. There was a unanimous feeling that more must be done in the conventional field and that modern and sufficient NATO tactical and strategic capabilities must be maintained.

A second important area was that of detente. While my fellow Ministers reaffirmed the importance they attached to Mutual and Balanced Force Reductions, they noted that Warsaw Pact countries have not directly responded to past evidence of NATO interest for such reductions. Consequently, my colleagues understandably did not go beyond the previous Rome communique in their treatment of Mutual and Balanced Force Reductions.

A third important area, that of burden sharing, set precedents which constitute a significant first step toward more equitable sharing of the NATO defense burden. Ten European nations agreed among themselves to provide almost a billion dollars of additional expenditures over the next five years, divided about equally between improvements to their own forces and contributions to an additional infrastructure program for better communications and aircraft shelters. This is the most tangible evidence yet of European recognition that Europe must do more in its own behalf, and is also the first purely European endeavor of such importance in which the United States has played no direct role. It is the first important common move toward force improvement in the last 10–12 years. This demonstration of European awareness of the strategic, fiscal, manpower, and political realities and their determination to face them is good for both Europe and ourselves.

We are continuing our studies and planning to integrate more closely all the resources available within NATO, to improve our procedures for management and mobilization, and thereby enhance NATO's capabilities.

Other examples of closer cooperation include the modernization program for Korean armed forces and of course, the entire Vietnamization program.

But there are additional steps we are taking or planning to improve both our own and allied capabilities. One area involves a more cooperative research and development effort. The military services have a number of bilateral and NATO cooperative research and development programs under way with our allies, although the amount of funds is small. We are planning to test and evaluate some foreign weapon systems for possible adoption during this fiscal year, and plan to do even more in this area in FY 1972. In taking these steps, we desire to eliminate any unnecessary duplication in weapon systems research and development activity. To the degree that such duplication can be reduced, our overall force capabilities can be improved at lower cost.

Although this plan is not without disadvantages, it has been carefully weighed. We believe that it is in our mutual interest to proceed along these lines with our allies.

Similarly, we believe that our research and development program has a definite role to play in implementing the Nixon Doctrine. Suitable military assistance to our allies is frequently limited both by the items in the U.S. inventory, which may not necessarily be appropriate to the situation at hand and, in some cases, by a lack of knowledge of the technical and economic problems facing these countries. There are several areas where appropriate effort can help insure that suitable equipment or assistance commensurate with allied capabilities is provided.

At the present time, the International Fighter, for which we have included $128 million in the FY 1972 budget, is the only major development project specifically oriented toward support of the Nixon Doctrine. However, there are several smaller research and development efforts underway. One is the Advanced Research Projects Agency (ARPA) program of "tailored equipment" for less developed allies. This program will develop and/or test and evaluate a broad variety of more simple, less expensive and more maintainable equipments to meet the needs of these allies. Examples being considered are light attack aircraft, fast patrol boats, ambush protection for vehicles, and low maintenance small arms.

Since these types of problems often fall outside normal military service responsibilities, we plan to have ARPA task the military services to perform specific, pertinent tasks using ARPA funds. In certain instances, the military services would be free to undertake projects on their own initiative. It is expected that this arrangement will remove such efforts from funding competition with regular military service programs, yet retain military service flexibility to support important programs which might have multiple applications. We intend to start this effort on a modest basis in FY 1972.

This new program will consolidate and expand on current projects to include those supporting our most important allies. Our goal is to provide equipment to reduce dependence upon U.S. forces, select equipment which offers an optimized military capability for the funds available, and provide options for more sophisticated U.S. general purpose equipment as appropriate and commensurate with the capabilities of a friend or ally.

Threats to U.S. and Free World Security

The threats to U.S. and Free World security obviously were a central factor in planning forces and programs to implement the new strategy. . . .

This section summarizes the major threats we and our friends and allies must confront, primarily in terms of the categories of potential conflicts: strategic and theater nuclear, theater conventional and subtheater. Also included are discussions of different dimensions of the threat: communist military assistance and the technological challenge. . . .

Strategic Nuclear Threat

The primary strategic threat to the United States—the capability of the Soviet Union to deliver long-range, nuclear weapons against targets in the United States—has been a matter of grave concern to us.

The Soviets have built up their ICBM forces at a rapid rate during the past five years and, as of the end of 1970, had some 1,440 operational launchers. There are indications, however, that construction on new silo starts has slowed during the past year.

The SS–11 deployment of launchers appears to have leveled off at the present time, with over 900 missiles, part of which are associated with the medium range/intermediate range ballistic missile (MR/IRBM) fields. The deployment rate of the SS–9s decreased during 1970, even though deployment continued. Work on some sites may have been suspended and work has slowed on several others. The deployment rate of the SS–13 continues as it has for the past four years, with some indication that it may be slowing.

The implications of these trends are still not clear. The Soviets may have completed new starts for a programmed force of SS–9 and SS–11 missiles, or they may have slowed silo construction in order to proceed with retrofit of some existing silos with missiles improved, modified, or [equipped with multiple independent reentry vehicle (MIRV)]. Alternately, the explanation may be that the Soviets are preparing to deploy new ICBM systems. We will, of course, be examining the situation carefully in order to get more precise indications of where they are headed.

However, we expect the Soviets by mid-1972, if they elect to continue work on those sites where construction has slowed or stopped and to maintain the older systems at the current level, to have over 1,500 operational ICBM launchers, part of which are associated with the MR/IRBM fields.

Beyond 1972 our projections of Soviet ICBM launchers and reentry vehicles (RVs) become less firm. As was the case last year, there is still no agreed estimate on what the size and characteristics of the Soviet force will actually be in the period after 1972, or on where it may level off.

It should be kept in mind that although the Soviets probably have no MIRVed missiles operational at the present time, multiple reentry vehicles (MRVs) have been tested many times on the SS–9 since August 1968.

It is evident that the Soviets could have over the next few years, several distinctly different forces depending on their objectives and force decisions. Regardless of the direction in which they proceed, a key question would remain about the accuracy of the RVs in their ICBM force. It is estimated that the accuracy of the SS–9 could be substantially improved by 1975/76. With this improved RV accuracy, the projected Soviet SS–9 missile force could pose a serious threat to the future survivability of undefended Minuteman silos.

The Soviet ICBM threat is augmented by a substantial nuclear-powered, ballistic-missile submarine fleet that is presently the fastest growing element of the threat. The most capable component of this fleet is the Y-class which, like the U.S. Polaris, has 16 tubes for launching missiles. There are now at least 17 such submarines operational—capable of launching at least 272 missiles with a range of 1,300 nautical miles. The additional ballistic missile capability in older Soviet submarines gives them a total of more than 350 launchers in the operational inventory. Another 15 or more Y-class submarines are in various stages of assembly and fitting out. At the current production rate of 7–8 nuclear ballistic missile submarines (SSBNs) per year, the USSR could develop an operational force of Y-class submarines by 1974, comparable in size to the current Polaris force. A longer range submarine launched ballistic missile is under active development. We cannot estimate deployment at this time.

The Soviet intercontinental heavy bomber force, which now numbers around 200 aircraft (including about 50 tankers) continues its slow downward trend of the past few years. Although we believe the Soviet medium bomber force of several hundred aircraft is targeted primarily against the Eurasian area, we cannot ignore the fact that these aircraft do have a one-way mission capability against the United States. The Soviets also have a new swing-wing bomber under development. Its future role has not been determined, but it is estimated to have intercontinental range capability.

With regard to the strategic defensive forces of the Soviet Union, there is extensive deployment of aircraft defenses, as well as an antiballistic missile (ABM) system deployed around Moscow. The Soviets have a large inventory of radars numbering in the thousands and a force of over 3,000 interceptor aircraft. There is a slight trend toward a reduction in the number of these interceptors, but the quality of the force has improved. Four new interceptors have been added since 1964, and these newer models make up a substantial part of the force. In addition, four different surface-to-air missile (SAM) systems, with about 10,000 launchers, are presently deployed for air defense. There is concern by some of my technical experts that the SA–5 SAM might be capable of adaptation for certain ABM roles.

The Soviets now have four Moscow ABM complexes (ABM–1) operational. They are continuing construction of surveillance radars which could be a part of an ABM system, and are actively working on research and development related to development of new ABM system components, including a new missile.

As for the strategic nuclear threat of the Peoples Republic of China, their progress toward achieving an ICBM capability is continuing. The sophistication of Chinese missile programs was clearly indicated by the launching of China's first satellite in April 1970, probably using stages of an IRBM now under development. We believe that the Chinese could attain an initial operational capability (IOC) with ICBMs within three years after flight testing commenced. The start of testing has not yet been confirmed, but a reduced range test of an ICBM may have occurred in late 1970. Thus the earliest possible date for deployment would be 1973, but it is more likely that the Chinese ICBM will not attain IOC until a year or two later, and they probably could not have significant numbers of ICBMs deployed until late in the decade.

Theater Nuclear Threat

The theater nuclear forces of the Soviet Union include large numbers of ballistic missile launchers (including short, medium, intermediate, as well as variable range missiles) and tactical surface-to-surface missile launchers assigned to their ground forces. In addition, their large medium bomber force of about 700 aircraft in long range and 400 aircraft in naval aviation is capable of carrying nuclear weapons, as are a substantial number of light bombers, fighter bombers and fighters in the tactical air forces. Soviet naval forces, both surface and sub-surface, also carry nuclear-capable missiles.

Theater nuclear capabilities of the Peoples Republic of China probably are limited currently to medium bombers, but limited deployment of the Chinese MRBM may have occurred. The emphasis in Chinese research and development appears to have shifted in 1970 from the MRBM to development of an IRBM. The Chinese MR/IRBM development efforts have also provided important experience for their ICBM program.

By mid-1971, the Chinese are expected to have a small number of MRBMs deployed. Their IRBM could attain IOC within the next year or two, and by mid-1972, the Chinese are expected to have operational a modest number of missiles, with a mix of MRBMs and IRBMs. This will, of course, provide an additional nuclear threat to the free nations of Asia.

China's primary aircraft for nuclear weapon delivery is the Badger, now in series production. They now have a few of these aircraft operational and are expected to have a significant force by mid-1972.

Soviet and Warsaw Pact Theater Conventional Threat

Over the past year, we have seen the Soviet and other Warsaw Pact forces continue their growth both in quality and in quantity. The Soviets now have at least 160 divisions including motorized rifle, tank, and airborne. This total includes divisions deployed along the USSR-Chinese border.

It should be borne in mind that Soviet divisions are appreciably smaller than their U.S. counterparts, and that the Soviets allocate a considerably smaller proportion of their manpower to combat and service support functions than we do.

Ground Combat. The Soviets probably will continue for the next few years production of the T–62 medium tank, with modifications.

In other categories of equipment we believe that the Soviets will gradually equip infantry units in at least some of the divisions with a new amphibious armored infantry combat vehicle. Furthermore, the Soviets are almost certainly experimenting with improved conventional weapons and within several years the Soviets could have sizable operational inventories of improved conventional artillery shells, bombs, and missile warheads in theater force units.

We believe the Soviets will retain their current family of tactical missiles and that the number of tactical launchers will continue to grow.

Tactical Air. In tactical aviation, a gradual buildup probably will continue for the next few years. . . .

The Soviets have developed several new aircraft which could satisfy their requirement to replace obsolescent ground attack and light bombers and improve their air defense capability. One of these aircraft became operational in 1970, and another may be operational now in Soviet tactical aviation. A third, Foxbat, recently was deployed with strategic defense forces as an interceptor, and may enter the tactical aviation inventory in 1971. If employed in tactical aviation, it is believed that the Foxbat will retain its primary role as an interceptor and fulfill a specialized secondary reconnaissance role.

Air Defense. We expect the Soviets to continue to expand and improve their theater air defense systems, including the command and control systems and the tactical missile systems. The SA–4 Ganef missile system, which has been in service with Soviet forces in the USSR and Eastern Europe since 1967, is now entering service with several of the subordinate armies, and the SA–6 Gainful is currently being deployed to upgrade Soviet capability in this category.

Naval Forces. It is obvious that an open-ocean navy has been developed by the Soviet Union. Already having the largest submarine force in the world, the Soviets have introduced several new, advanced classes of submarines since 1968. The Y-class SSBN already has been discussed. The introduction of nuclear-powered, cruise missile attack classes has added a new dimension to submarine warfare.

By the mid-1970s, the replacement of older diesel-powered, cruise missile and attack submarines with new nuclear-powered vessels could result in a quantitatively smaller but qualitatively improved submarine force.

Concurrent with this massive submarine construction and development program, the Soviets have introduced new and advanced naval missile systems.

Over the next five years, we expect the composition of the Soviet's major surface combatant fleet to change significantly as new missile-equipped combatants replace older ships armed with guns. Whereas in 1970, missile-equipped surface combatants accounted for 23 percent of the major surface combatant fleet, by 1975 we project that some 40–50 percent of the fleet will be missile-armed.

Lift Capability. With regard to lift forces, the Soviets have increased their military air transport capability to include the AN–22/Cock heavy logistic transport, a number of which are operational with transport units. . . .

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Immediate Threat in the Middle East

The situation in the Middle East can be fitted into potential categories of possible conflict only with difficulty. . . . Forces which we have included in one category—such as the Soviet theater conventional threat—also represent capabilities that could be used in other types of conflict. The immediate threat in the Middle East, of course, consists of the potential for war between Arab states and Israel, but the possibility exists that such a conflict could involve the Soviet Union and the United States. The balance of power in the Middle East obviously has a vital bearing on the U.S. security interests in that area. Moreover, the Soviets are deeply involved with and in some of the Arab states in the area.

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Theater and Subtheater Threat in Asia

Our Asian allies and friends are faced with a threat that differs somewhat from that posed to NATO by the Warsaw Pact. The forces of the Peoples Republic of China, North Korea, and North Vietnam are able to engage in subversive and small-scale guerrilla attacks in bordering states, as well as being capable of mounting full-scale conventional attacks in adjoining countries. These forces, therefore, pose both a potential theater conventional threat, and a sub-theater threat. This should be kept in mind as we address the total forces available to China, North Korea, and North Vietnam.

In addition, the Soviet forces in Asia must be considered as part of the theater threat in Asia.

Communist China, however, poses the principal general purpose force threat in Asia. The Chinese army consists of approximately 2.5 million personnel, organized into a total of more than 140 combat divisions. The air force (including the Navy's air arm) consists of more than 4,000 aircraft, of which most are jet fighters, and a small fleet of about 300 jet bombers. The navy's main offensive strength centers upon a growing force of more than 40 attack submarines, a number of which are of the medium-range R-Class; and increasing numbers of guided missile patrol boats. Chinese production of army ordnance, new guided missile destroyers and advanced jet fighter aircraft are contributing to a rapid modernization of the general purpose forces.

The Peoples Republic of China could conduct major offensive operations in four non-Communist areas: South Korea, Taiwan, Southeast Asia and India.

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North Korea poses another significant threat in Asia. The country's general purpose forces are relatively modern in structure and equipment and have attained a high state of combat readiness. The Army consists of some 360,000 personnel and about 25 division equivalents and could probably engage in initial offensive operations without external assistance.

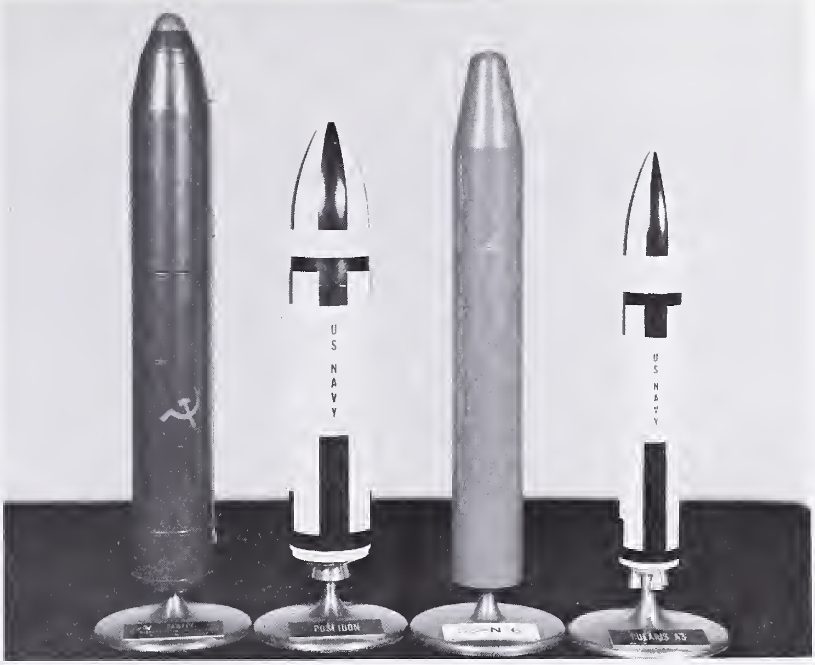
The North Korean air force has more than 550 aircraft in its tactical air inventory, including MIG–21s. The air force also has a number of transport planes (including helicopters), and a small number of light bombers and 70 trainer aircraft.

The navy includes a small submarine force, guided missile patrol boats, and a sizable number of motor torpedo boats.

Any sustained conventional offensive operations would require considerable materiel and possibly military personnel assistance from North Korea's Communist allies. However, North Korea is capable of mounting a wide variety of unconventional warfare operations.

The North Vietnamese theater and sub-theater threat in Southeast Asia is significantly different from other threats in Asia since a portion of its force already is engaged in actual combat. We must, however, recognize the full dimensions of the military threat that could be posed by the North Vietnamese in Southeast Asia.

The army has a total in-country strength of 315,000 and is organized into 13–14 division/commands. The navy is relatively small and consists primarily of motor gun and torpedo boats. The North Vietnamese have a total of more than 200 fighter and attack aircraft in the air force. While most of these are MIG–15/17/19s, a significant number are MIG–21s.



Sawfly **Poseidon** **SS–N–6** **Polaris**

U.S. and USSR missiles compared

Immediate Subtheater Threat in Southeast Asia

The actual deployment of a substantial portion (roughly half) of the North Vietnamese army in South Vietnam, Cambodia and Laos, along with the North Vietnamese support of local communist forces (Viet Cong, Khmer Communist, and Pathet Lao) in these countries, provides the immediate threat to our friends and allies in Southeast Asia. In South Vietnam we believe there are a total of at least 240,000 Viet Cong and North Vietnamese personnel actually deployed.

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Technological Challenge

Forces in-being and military assistance are only part of the military threat to our nation's security. The technology behind the capabilities of our potential opponents, particularly the Soviets, is of severe concern to us. With the continuing technological effort on their part, we must expect the Soviets will be capable of reducing our technological lead in some areas and, at some point in the future, we could even lag in certain critical areas.

Since 1968, the Soviet research, development, test and evaluation budget has increased at 10 percent to 13 percent per year, while that of the United States has remained essentially constant. Our estimates indicate that the Soviets are now spending, in 1968 equivalent dollars, some $3 billion more annually on military and space research and development than we do. The Soviet level of military and space technological effort appears to be significantly larger than that of the United States.

With a technological effort of that size, our analyses indicate that the Soviets could reduce our technological lead of several years by approximately one year with the passing of every three years. Toward the mid-to-late 1970s, we may find that we have no technological lead at all—or worse—we may lag several years behind the Soviets in some critical areas by that time.

Although these comments relate primarily to our estimates of funding associated with Soviet research, the same general trends are evident with regard to other measures—manpower, facility growth, and basic research efforts. Given the fact that theirs is a closed society, if the Soviets were to take the technological lead, it would be much more difficult for us to guide our intelligence collection activities, to interpret the information we do acquire, and to make confident decisions based on this information.

Force Planning under the New Strategy

In planning forces for the complete spectrum of conflict, we must recognize all the capabilities that can be provided by our existing forces. Many of these forces are versatile enough to perform more than one mission or function and to serve purposes different from the one for which they have been specifically designed and procured. Many examples are available: the B–52, although designed as a strategic bomber, has played a large role in tactical operations in the conflict in Southeast Asia; most tactical aircraft and tactical missile systems have both conventional and nuclear delivery capabilities and several aircraft have multimission roles, such as interdiction, close support, and air superiority; some tactical fighters can be used as interceptors for strategic air defense of the Continental United States; and aircraft carriers, depending on aircraft complement, are capable of being used in defending the fleet, attacking hostile ships or submarines, providing close air support or interdiction overland, or other missions.

Thus, the use to which any system can be put derives more from inherent capability and the nature of the conflict than from primary mission design. At the same time, it should be recognized that any given force element cannot always be used in a time-critical environment for more than one mission, a major reason for prudent levels of force redundancy.

The Five-Year Program

Last year, when presenting the FY 1971 Defense Budget and Program I advised you that we had broken the cycle of five-year planning, and that the FY 1971 Budget was transitional. This year, as I promised, we are presenting the first Five-Year Defense Program of this Administration. In effect, we have completed our transition to baseline planning, and are now building for the future. Table 1 includes a summary of the active forces we plan to maintain through FY 1972.

Table No. 1

Summary of Selected Active Military Forces
(End of Fiscal Year)

	1964	1970	1971	1972
Strategic Forces				
Intercontinental ballistic missiles:				
Minuteman	600	1,000	1,000	1,000
Titan II	54	54	54	54
Polaris-Poseidon Missiles	336	656	656	656
Strategic Bombers (AAI)	1,277	517	569	521
Manned Fighter Interceptor Sqdns	40	14	11	11
Army Air Defense Firing Batteries	107	40	30	21
General Purpose Forces:				
Land Forces:				
Army Divisions	16⅓	17⅓	13⅔	13⅓
Marine Corps Divisions	3	3	3	3
Tactical Air Forces:				
Air Force Wings	22	23	21	21
Navy Attack Wings	15	13	12	11
Marine Corps Wings	3	3	3	3
Naval Forces:				
Attack & Antisubmarine Carriers	24	19	18	16
Nuclear Attack Submarines	19	44	51	55
Escort Ships	265	231	226	227
Amphibious Assault Ships	139	97	81	75
Airlift and Sealift Forces:				
Aircraft Squadrons:				
C–5A	—	1	2	4
C–133, C–141, C–118, C–124, C–130, C–135	32	17	15	13
Troopships, Cargo Ships, and Tankers	100	113	105	98

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In planning strategic forces to meet the military criteria for deterrence, our principal objectives, derived from the sufficiency criteria, currently include:

- Maintaining an adequate second-strike capability to deter an all-out surprise attack on our strategic forces.
- Providing no incentive for the Soviet Union to strike the United States first in a crisis.
- Preventing the Soviet Union from gaining the ability to cause considerably greater urban/industrial destruction than the United States could inflict on the Soviets in a nuclear war.
- Defending against damage from small attacks or accidental launches.

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Planned FY 1972 Strategic Forces. For FY 1972, in the absence of a SALT agreement, the major numerical change that will take place in these forces is the inactivation of three B-52 squadrons. We currently plan to keep the aircraft from one of these inactivated squadrons, plus those of the two B–52D squadrons in Southeast Asia, as rotational aircraft to support our mission requirements in that area.

Our strategic offensive forces at the end of FY 1972 will consist of 1,000 Minuteman missiles, 54 Titan missiles, 450 B–52 aircraft (26 squadrons), 71 FB–111 aircraft (four squadrons), and 656 Polaris and Poseidon missiles carried in 41 nuclear submarines.

Our strategic defensive forces at the end of FY 1972 will include about 600 manned interceptors and about 900 surface-to-air missiles on site, together with the required warning and command and control systems.

With planned modernization, and with a phased Safeguard deployment as appropriate, these strategic force strengths represent our baseline planning forces for the future.

Modernization of U.S. Strategic Forces in FY 1972. The major programs for improvement and modernization, shown on Table 2, are designed to preserve the sufficiency of these forces to fulfill the basic planning objectives I noted earlier, while at the same time preserving our flexibility.

A Reliable and Survivable Retaliatory Force. In the strategic offensive forces area, we are concerned both about the potential vulnerability and the penetration capability of our bombers and missiles as we approach the mid-1970s.

To enhance the prelaunch survivability of our strategic bomber force against the Soviet submarine-launched ballistic missile threat, alert aircraft are being dispersed over a greater number of bases, generally further inland than in the past. Fourteen satellite bases, each with minimum facilities to support aircraft, will be in operation by the end of FY 1972. We are currently examining options for more extensive interior basing of this force, and other means to further improve prelaunch survivability against a broad range of potential submarine-launched ballistic missile threats. For example, one specific initiative undertaken by the Air Force is the provision of a rapid start capability for the B–52s and associated tankers assigned to the Strategic Air Command to reduce engine start time.

We will also need to provide improved penetration capability for the B–52 force as well as the FB–111 bomber force which will be operational through the mid-to-late 1970s. For this purpose, we are requesting $359 million in FY 1972 to complete development of the Short Range Attack Missile (SRAM), procure a quantity of missiles, and modify B–52 and FB–111 aircraft to carry SRAMs. In addition, we are requesting $10 million to continue development of the Subsonic Cruise Armed Decoy (SCAD) to counter possible Soviet air defenses of the late 1970s.

. . . Based on favorable static and flight test results of the SRAM motor, the Air Force has recently ordered the start of full production of the missile.

We are continuing the program to deploy multiple independent reentry vehicles (MIRVs) in our Minuteman and Poseidon missiles. . . .

Table No. 2

Selected Strategic Forces Programs

	FY 1971 Actual Funding ($Millions)	FY 1972 Proposed Funding ($Millions)
Reliable, Survivable Retaliatory Forces		
Development and Continued Procurement of Short Range Attack Missile (SRAM) and Modification of Aircraft	266	359
Continued Development of Subsonic Cruise Armed Decoy (SCAD)	-----	10
Continued Procurement of Minuteman III and Minuteman Force Modernization	589	839
Conversion of SSBNs to Poseidon Configuration, Continued Procurement of Poseidon Missiles, and Associated Effort	1,022	803
Development of New Undersea Long Range Missile System (ULMS)	45	110
Continued Development of New Strategic Bomber, B–1	75	370
Development of Advanced Ballistic Re-entry Systems and Technology	100	87
Reconnaissance, Early Warning, and Air Defense		
Continued Development of Airborne Warning and Control System (AWACS), and Over the Horizon Radar (OTH)	92	149
Continued Deployment of New Satellite Strategic Surveillance System and Development of Follow-on Systems	213	187
Ballistic Missile Defense		
Continued Deployment of Safeguard	1,331	1,278
Identification and Development of Advanced Ballistic Missile Defense Technology by the Army's Ballistic Missile Defense Agency	105	100
Prototype Development of Hard-Site Defense	25	65
Civil Defense	73	78

Safeguard Deployment Schedule

(Equipment Readiness Date)

Oct 74	**May 75**	**Early 76**	**Mid-77 or**	**Late 77**
Grand Forks	Malmstrom	Whiteman	Warren	Initial Washington, D.C. Capability [a]

[a] The initial defense of Washington is the same as would be provided in the full Safeguard deployment and includes a single Missile Site Radar (MSR).

Including MIRV, several major programs for the improvement and modernization of our land-based missile force are now underway, with a total funding requested of $839 million. The budget includes $591 million to procure Minuteman IIIs toward a total planning objective of 550 missiles. The force modernization program includes upgrading Minuteman silos against nuclear blast and radiation effects, in order to reduce their vulnerability. This program will be coordinated with the replacement of Minuteman I by Minuteman III missiles to complete both the silo upgrading and Minuteman III deployment programs efficiently. The Budget also includes funds to continue the program of reducing the vulnerability of the Minuteman II missiles to nuclear radiation effects while in flight. The Minuteman III missiles currently being produced are already designed to withstand these effects. In addition, we will continue the Command Data Buffer Program, which will permit more rapid and remote retargeting of Minuteman III missiles.

In addition, we are planning steps to preserve this portion of our strategic offensive forces through the deployment of active ballistic missile defense. I will discuss this program and its relation to our overall planning later.

We are continuing to convert Polaris submarines to carry the Poseidon MIRV missile. . . . The Budget includes $803 million to convert more submarines, procure more missiles, and provide long lead items for conversions planned next year. Funding for the Poseidon submarine conver-

THE B–1 is being developed in a manner to minimize the concurrence of development and production.

sion program should be completed in FY 1974.

In addition to these programs now in progress, we must also make preparations to carry out long-range modernization programs to provide adequate strategic offensive forces in the 1980s. We believe that the best near-term approach is to do design studies and preliminary engineering development of a number of systems without committing ourselves to produce any of them. In this way, we will preserve the flexibility to capitalize on opportunities as they appear, counter threats which may emerge in the future, and respond to changes emerging from SALT.

The two most significant of our ongoing long-range developments are the Undersea Long-Range Missile System (ULMS) and the B–1 intercontinental bomber. . . . The Budget contains $110 million, primarily for continued technical tradeoff studies, preliminary submarine and facilities design, and design work on the power plant and navigation, guidance, fire control, and launcher systems.

The Budget also includes $370 million to continue engineering development of the B–1 intercontinental bomber. . . . The B–1 is being developed in such a manner as to minimize the concurrence of development and production. This will permit a B–1 operational capability by the early 1980s if we choose at a later date to proceed into production.

We plan to continue our investigations of Advanced Ballistic Re-entry Systems (ABRES) and technology, and are requesting $87 million in FY 1972 for this effort.

Air Defense. During FY 1972, we will make certain additional reductions in the current air defense forces, primarily with reductions in surface-to-air missiles, but we will maintain our aircraft early warning capability and will continue research and development to provide effective bomber defenses. The major change planned for these forces in FY 1972 is a reduction in the number of Nike-Hercules missile batteries.

Even if we successfully conclude a strategic arms limitation agreement, we may need to modernize our air defenses in the late 1970s. Therefore, the Budget includes research and development funds for two key systems: $3.6 million for the continental U.S. Over-the-Horizon radar (OTH–B) and $145 million for the Airborne Warning and Control System (AWACS). . . .

A future air defense system will require an improved interceptor that possesses a "look-down/shoot-down" capability, greater time on station at AWACS operating ranges, and improved firepower. Both the Navy F–14 and Air Force F–15 now under development are capable of being adapted to fulfill the mission of a new air defense manned interceptor, and we expect to examine closely the feasibility of using one of them for this mission. The Army surface-to-air missile system (SAM–D) currently under development could also play a significant role in continental U.S. air defense.

Missile Warning and Space Systems. Early warning of ICBM attack will continue to be provided by the Ballistic Missile Early Warning System (BMEWS) radars and the "forward scatter" OTH radar system. . . . Development of the satellite early warning system is continuing. The FY 1972 Budget includes $187 million to deploy this new advanced system. . . .

We will continue to maintain an active anti-satellite defense capability. Satellite tracking and identification will continue to be provided by the existing USAF Spacetrack system and the Navy's SPASUR system; both tied into the North American Air Defense Command and supported by the Space Defense Center for continuous space cataloguing.

Ballistic Missile Defense. The Safeguard Anti-Ballistic Missile Defense System has been and continues to be designed to achieve several objectives against a combination of Soviet and Chinese threats. They include:

- Protection of our land-based retaliatory forces against a direct attack by the Soviet Union.
- Defense of the American people against the kind of nuclear attack which Communist China is likely to be able to mount within the decade.
- Protection against the possibility of accidental attacks from any source.

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Theater Nuclear Forces for Deterrence

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We are currently evaluating the long-term structure of our theater and tactical nuclear programs. In the near-term, we will continue to rely on current capabilities, including theater assets, tactical aircraft, missiles, rockets, field artillery, and atomic demolition munitions. However, research and development and weapon improvement programs are planned in this area, to insure that our weapons and the associated command and control systems have both adequate capability and continue to emphasize minimum chance of accident. With such programs, we believe that we can retain or improve the essential contribution our theater nuclear forces make to our deterrent posture.

Theater Conventional Forces for Deterrence

A basic planning approach used to determine the approximate size of our theater general purpose forces involves estimating the capabilities of various alternative forces in several situations that could arise in the future.

We plan our general purpose forces in peacetime to be adequate for simultaneously meeting together with our allies a major Communist attack in either Europe or Asia, assisting allies against non-Chinese threats in Asia, and contending with a minor contingency elsewhere. In planning our capabilities, we maintain the full range of air, sea, and ground forces needed to meet our planning goals.

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Planned FY 1972 General Purpose Forces. Table 1 [page 12] includes a summary of our active General Purpose and Mobility Forces for FY 1972 and compares them to the forces in selected prior years.

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Tactical Aircraft Forces. Based on our assessment of force requirements and allied capabilities, we have decided to continue the reduction in Air Force active fighter and attack forces during FY 1972. We now expect to reduce active fighter and attack aircraft to about 2,170 by the end of FY 1972. . . .

We also plan to continue reducing our sea-based tactical aircraft forces from the 12 attack carrier wings (CVWs) maintained in FY 1971, to 11 CVWs with a total of about 1,300 active fighter and attack aircraft by the end of FY 1972. We also plan to maintain about 550 Marine Corps fighter and attack aircraft, also capable of operating from carriers. These Marine Corps aircraft will make up three Marine aircraft wings (MAW), each of which will continue to be closely associated with a Marine division, operating within the concept of the air/ground team.

The Reserve tactical aircraft programs also form an important part of our total assets.

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As we proceed with our planning, we are continuing to examine the many conflicting demands for our tactical aircraft, and the relationship of these forces to those of our allies. Each mission and theater presents its own unique and demanding circumstances; in the future we may be able to increase further our overall military flexibility by designing different parts of our forces for different likely conflict areas or situations. If our investigations indicate that we could achieve significantly more flexible tactical air forces in the future, we would want to gradually reorient our forces over the 1973–77 period.

In the meantime, the Air Force, Navy and Marine Corps are pursuing essential modernization programs designed to enhance the flexibility and capability of our present tactical air forces. We believe that the active and reserve force strengths we are planning, when coupled with both this modernization and the capabilities of our allies in this area, represent a realistic baseline program for the future.

Naval Ships and ASW Forces. By the end of FY 1972, we expect that Naval Ship and Antisubmarine Warfare (ASW) Forces, after the reductions of the past few years, will approximate a base-line force for future planning. These forces will include 16 aircraft carriers, including both CVA and CVS, 93 nuclear and conventional attack submarines, and some 227 fleet air defense and ASW escorts. In addition, the FY 1972 forces include land-based ASW patrol and carrier-based ASW squadrons, amphibious ships to lift the assault echelons of slightly less than 1⅓ Marine Amphibious Forces and about 155 logistics and support ships. In future years, as some existing old ships and aircraft are phased out and new ones are introduced, modifications to these force levels will reflect some further small reductions in total force levels.

Our naval forces form an essential part of our assets for realistic deterrence across a broad spectrum of possible conflicts. Since the United States has been and remains a maritime nation, a strong navy is essential.

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Modernization of U.S. Combat Forces in FY 1972. Table 3 provides a summary of major procurement. The major modernization programs for selected general purpose and mobility forces, planned for FY 1972, are shown on Table 4. Although programs are grouped by primary mission, as I mentioned earlier many of the systems have inherent capabilities that permit multi-mission utilization.

Ground Combat Capability. In connection with our land forces, the Army's tank program today is focused primarily on the continued development of its new main battle tank, the XM803. . . . We are requesting $87 million in FY 1972 to continue development and advanced

ARMY'S TANK PROGRAM is focused primarily on continued development of its new main battle tank, the XM803.

production engineering for the XM803, which will include procurement of second generation pilot hardware, testing of components, and development of training devices.

To continue improvement and retrofit of the M60-series tanks, $46 million is included in the FY 1972 Budget. Of this, $13.3 million will be used for a modest product improvement program to upgrade the M60 and M60A1 tanks, which are the Army's standard tanks today. . . . The remainder is to apply corrective modifications to 210 of the M60A1E2 tanks which the Army has procured in previous years. . . .

In addition, the Army plans to continue its procurement of M60A1 tank vehicles. The FY 1972 Budget includes $41 million to procure 90 M60A1 tanks and 60 Bridge Launcher Chassis. . . .

To complement its tank capability, the Army is moving ahead with procurement of its new anti-tank missile systems for the infantry—Tow and Dragon—for which we are requesting $103 million in FY 1972. . . .

Table No. 3

Selected Major Procurement (Quantity)

	FY 65	FY 70	FY 71	FY 72
Strategic Forces				
Navy				
Poseidon Conversions (SSBN)	—	4	6	6
Land Forces				
Army				
Aircraft and Spares				
LOH (OH 6/58)	88	600	600	400
UH–1	759	160	120	—
AH–1	—	170	70	—
M60A1 Tank (Incl. M60A1E2)	246	300	300	[a] 300
U.S. Marine Corps				
Helicopters	138	62	15	14
LVT–7 Family	—	38	298	450
Tactical Air Forces				
Navy and Marine Corps				
A–6E (A–6A in '65)	64	12	12	12
A–7E	35	27	30	24
F–4	124	34	—	—
F–14	—	—	26	48
E–2C	—	—	—	11
EA–6B	—	15	8	19
A–4M	—	49	24	—
AV–8A	—	12	18	30
CVAN	—	1	—	—
Air Force				
A–37	—	36	81	—
A–7D	—	128	88	97
F–4	222	—	24	36
F–111	10	66	24	—
RF–4C	128	—	12	12
Int'l Fighter	—	—	—	21
Naval Forces				
Ships				
SSN	6	3	4	5
DLGN	—	1	1	1
DD–963	—	3	6	7
DLG Conv	—	1	4	2
LHA	—	2	2	—
Other Amphibious	10	—	—	—
Support (AS, AFS, ARC, AO, AOR, AD, AE, ATS)	9	—	—	6
Aircraft				
P–3	48	23	12	36
S–3A	—	—	—	13
RH–53D	—	—	12	18
UH–1N	—	—	—	10
Mobility Forces				
Air Force				
C–5A	—	23	—	—
C–130E	—	18	—	12
Navy				
Ships (T–AGOR, T–AGS)	2	—	2	1

[a] Includes retrofit of 210 on hand M60A1E2 tanks.

. . . At the present time, we are well into a multi-year procurement program for the Tow system; in FY 1972 we plan to continue buying the Tow at the minimum sustaining rate. The Dragon goes into initial production in FY 1972, and funds for the first year's increment are included in our current budget request. The Budget also includes $4 million to begin advance production engineering for equipping Cobra helicopters to carry the Tow missile.

Procurement of the Lance missile system is planned for FY 1972 and $84 million is included for this purpose. . . .

The major Army aircraft procurement planned in FY 1972 is 400 OH–58A light observation helicopters, to replace obsolete OH–13 and OH–23 helicopters. . . . We have included $35 million for OH–58A procurement for the final year of a multi-year contract.

No FY 1972 funds are included for procurement of the larger UH–1 "Huey" helicopters for the Army, although deliveries will continue through the period.

. . . We have included $13 million in the budget for Cheyenne advanced production engineering.

Close Air Support. Our combat experience in Vietnam has again underlined the importance of close air support for ground forces. In addition, our new concepts of air mobile warfare have led us to conclude that both organically assigned attack helicopter gunships providing direct suppressive fire support and heavier support in depth from attack aircraft do contribute to this role.

We are proposing in the FY 1972 Budget to continue development of both the A–X and attack helicopters because we believe they complement each other, through overlapping zones of coverage and diverse operating modes. At the present time, we believe that a mix of fixed wing aircraft and helicopters permits a variety of operation and deployment possibilities, a factor that may become increasingly important in the future. However, in view of the continued interest of the

Table No. 4

Selected General Purpose and Mobility Forces Modernization and Improvement Programs

	FY 71 Actual Funding ($M)	FY 72 Proposed Funding ($M)
Ground Combat Capabilities		
Continued Development and Advanced Production Engineering for Main Battle Tank (XM–803)	77	87
Continued Procurement and Modification of M–60 Tank	92	87
Procurement and Testing of Tow and Dragon Anti-tank Missiles	131	103
Procurement of Lance Missile	31	84
Procurement of Army Helicopters (OH–58A)	145	35
Continued Development and Advance Production Engineering for Cheyenne Helicopter	18	13
Close Air Support		
Development of A-X Close Support Aircraft	28	47
Procurement of AV–8A Harrier Close Support Aircraft for Marine Corps	86	110
Development and Initial Procurement of Maverick Air-to-Ground Missile	31	87
Air Superiority and Air Defense		
Continued Procurement of F–4 Air Force Fighter Aircraft	78	143
Continued Development of F–15 Air Superiority Fighter	348	415
Procurement and Continued Development of F–14 Multi-Mission Fighter	995	1,034
Procurement of Phoenix Missiles	92	104
Procurement of Improved Hawk and Chaparral/Vulcan Surface-to-Air Missile Systems	106	108
Continued Development of a New Surface-to-Air Missile System, SAM-D	83	116
Interdiction, Reconnaissance, and Other Combat Aircraft		
Continued Procurement of A–7 Air Force Attack Aircraft	256	208
Financing of F–111 Over-Target Costs and Performance Testing (includes 24 A/C in FY 71)	666	190
Procurement of A–6E and A–7E Attack Aircraft	272	192
Continued Development and Procurement of EA–6B Electronic Warfare Aircraft and E–2C Fleet Early Warning Aircraft	300	554
Procurement of RF–4C Reconnaissance Aircraft	40	44
Sea-Control and Naval Projection of Power Forces		
Additional Funding for CVAN 68 Nimitz and CVAN 69 Eisenhower	—	164
Continued Procurement of the P–3C Land-based ASW Aircraft	166	328
Development and Initial Procurement of S–3A Carrier-Based ASW Aircraft	288	580
Procurement of High Speed Nuclear Attack Submarines (5 FY 72; 4 FY 71)	662	881
Continued Development and Limited Procurement of MK–48 Torpedo	167	182
Procurement of ASW Spruance Class Destroyers (DD–963) (7 FY 72; 6 FY 71)	481	599
1 Nuclear-Powered Guided Missile Frigate, (DLGN–38)	211	209
Completion of Funding and Program Adjustment, DLGN–38–class ships	—	49
Continued Development of Aegis Ship Air Defense System	72	100
Development of Condor and Harpoon Long Range, Standoff Missiles	42	56
LHA Program (Termination of Program at 5 Ships in FY 1972)	313	110
Procurement of Marine Corps: Amphib. Asslt. Veh.	41	61
Helicopters	18	21
Procurement of Logistic and Support Ships	—	354
Mobility Forces		
Funding for Unbudgeted Prior Year Costs and Implementation of the Scientific Advisory Board Recommendation for the C–5A Aircraft	621	383

Congress in this area, we have established a working group to evaluate the close air support issue. Their evaluation will be completed before a production decision is made on either the Cheyenne or the A–X.

We have included $47 million in the budget to continue development of the A–X, . . . A–X procurement could begin in FY 1974. The A–X design will be chosen using a competitive prototype program, in which a "fly off" will be held between the two designs to determine which aircraft will be developed. . . .

Since the Marine Corps operates as a closely integrated air/ground team, the AV–8A Harrier weapon system is particularly suited to provide high performance V/STOL air support. The FY 1972 Budget includes $110 million to purchase in the United Kingdom an additional 30 AV–8As. . . .

The Maverick is another program that is of importance in providing increased capabilities for support of troops on the battlefield. . . . Testing of this missile has progressed satisfactorily and we intend to begin procuring it in FY 1972 for equipping the tactical forces. We are requesting $87 million for this program in FY 1972.

Air Superiority and Air Defense. Near-term modernization of aircraft for this role is planned through continued F–4 procurement. The Budget includes $143 million to buy 36 F–4 aircraft in FY 1972 for the Air Force. . . .

We are concerned, however, that the F–4 may not be able to cope with future threats to air superiority and hence, are developing an all-new fighter, the F–15, in order to fulfill our future requirements. . . . The Budget includes $415 million to continue this development. We expect to begin F–15 procurement in FY 1973, and by FY 1976 to start replacing F–4 squadrons with F–15 squadrons in the active forces.

To modernize our fighter-oriented naval air forces, we plan to replace F–4 aircraft in the active forces with F–14s in the mid-1970s. The Budget contains $228 million for continued research and development and $806 million to procure 48 F–14 aircraft in FY 1972. . . . The Budget also includes $104 million to procure Phoenix missiles for use on F–14 aircraft.

TO MODERNIZE fighter-oriented naval air forces, the F–14 is planned to replace the F–4 in the mid-1970s.

Modernization is also planned for the ground components which contribute to the air superiority-air defense role. The Chaparral/Vulcan system is currently being deployed. This missile/gun combination helps fill a void in the forward air defense of deployed ground forces. At the same time, the Army is planning additional procurement of Improved Hawk missiles, to provide a better defense against electronic countermeasures and multiple aircraft strikes. Procurement funds of $108 million for another increment of each of these systems are in the FY 1972 Budget request.

The SAM–D air defense system continues in advanced development. . . . We are requesting $116 million in FY 1972 funds to continue the basic SAM–D development program.

Interdiction, Reconnaissance, and Other Combat Aircraft. . . . We presently have a variety of aircraft, including the F–100, F–105, F–4, A–6, A–7, and F–111, which are capable of performing interdiction missions. In the near term, A–7 and F–111 aircraft will replace F–100 and F–105 aircraft to modernize this part of the Air Force. We expect to procure 97 A–7Ds in FY 1972, for which $208 million is included in the Budget. This order will complete our planned procurement of A–7Ds and provide for a force of three A–7 wings in the Air Force.

We currently plan that the number of tactical F–111 wings in the force will increase to four by the end of FY 1972, our planned force level for these aircraft. . . .

The Budget includes $190 million for additional development, initial spares, and for payment of prior-year costs needed to complete the F–111 procurement program. . . . No F–111 procurement is planned beyond FY 1971 but funds are needed to pay for aircraft procured in previous years.

. . . We have concluded that A–6E and A–7E production should continue in order to modernize our sea-based attack aircraft forces. For this purpose, the Budget contains $192 million to purchase 12 A–6E and 24 A–7E aircraft in FY 1972.

The Budget includes $554 million for continued development of the E–2C airborne early warning and EA–6B electronics countermeasure aircraft and procurement of 11 E–2Cs and 19 EA–6Bs.

To continue modernization of its tactical reconnaissance capability, the Air Force is procuring 12 RF–4C tactical reconnaissance aircraft in the FY 1972 Budget, for which $44 million is requested. . . .

Sea Control and Naval Projection of Power Forces. At the end of FY 1972 the aircraft carrier force will consist of the nuclear-powered Enterprise, eight Forrestal-class, three Midway-class, and four older carriers. The Nimitz and Eisenhower nuclear carriers have been funded and will replace the two oldest carriers in FY 1974 and 1975. The Navy now estimates that these ships will cost $594 million and $616 million, respectively, for a total cost of $164 million above the Navy's previous cost estimates. This amount has been included in the FY 1972 Budget. . . .

In 1978, our carrier forces will average 20 years in age with the oldest ship 33 years. At that time, the nuclear-powered carriers Nimitz and Eisenhower will have joined the Enterprise in the fleet. I am convinced that our responsibilities in the Atlantic, the Pacific, the Mediterranean and other ocean areas will require construction of an additional nuclear-powered carrier for the Navy to insure adequate attack carrier capabilities for the 1980s and beyond. The Navy is currently assessing the need for funding to keep the industrial base open with selected long lead time items in FY 1972. If preservation of the industrial base should be at issue, or if significant savings would be realized, I will seek funds for long lead time procurement for CVAN–70 in FY 1972 through reprogramming actions or budget amendments, within our overall request. This will enable us to keep the option open to authorize the next carrier in FY 1973 or FY 1974.

In FY 1972 we plan to buy 36 P–3C aircraft at a cost of $328 million. . . .

In order to improve antisubmarine warfare (ASW) capability, our sea-based ASW aircraft are also being modernized. We are requesting $207 million in FY 1972 for completion of most of the S–3A aircraft development program.

We also propose to procure the first 13 production aircraft in FY 1972 if flight testing shows that the aircraft is ready for production. We have included $373 million in the FY 1972 Budget for that purpose. . . .

Important changes in submarine technology have taken place in both the United States and the Soviet Union in the last 10 years, and have compounded the uncertainties inherent in our judgments of our needs for nuclear submarines (SSNs). However, because of the unique ASW capabilities of submarines and their effectiveness in other missions as well, we believe we should pursue a vigorous SSN construction program in the near term. Therefore, we have included $881 million in the FY 1972 Budget for procurement of five new "high speed" 688-class SSNs, and for long lead time procurement funding for submarines to be started in FY 1973.

. . . There are now three versions of the MK–48 torpedo: the MK–48–0, primarily an ASW weapon; the independently developed dual-purpose MK–48–1, and the dual purpose MK–48–2, the successor to the MK–48–0. The Navy plans to continue competitive development, test and evaluation until the summer of 1971, when one of the dual-purpose versions will be chosen. The total of $182 million included in the FY 1972 Budget will essentially complete the development program and provide for initial procurement of an operational inventory. Future procurement plans will depend on the version selected for full production.

Much of the escort ship force is old. Therefore, an extensive ship construction program is in progress to modernize this force. The 46 1052-class destroyer escorts previously authorized are entering the fleet; a multi-year contract for 30 DD–963-class ships has been let; and two DLGN–36-class ships (the California and South Carolina) are under construction.

Furthermore, we propose to fund a third DLGN–38 class ship in FY 1972.

. . . The Navy now estimates that the follow-on DLGN–38-class ship included in the FY 1972 Budget will cost $240 million, and we are requesting $195 million to complete its funding plus $14 million for long lead time items for DLGN–41. We are also including $49 million for DLGN–38 program escalation and cost growth adjustment.

The Navy's current estimate of the total cost for the DD–963 program is about $2.7 billion. We have included $599 million in the FY 1972 Budget to fund the next seven ships. The first ship of this class is currently scheduled to be delivered in FY 1975, with delivery of all 30 ships scheduled to be completed in FY 1978.

In total, the Budget contains about $914 million of ship construction funds to modernize this force.

The FY 1972 Budget includes $100 million to continue development of the Aegis surface-to-air missile system. . . . Also included in the Budget request is $56 million to continue developing the Condor and Harpoon long-range standoff missile systems.

By FY 1975 all but one unit of the amphibious ship force will consist of post-World War II vessels. . . . Five new general purpose assault ships (LHAs) have been funded through FY 1971 and will be delivered to the fleet between FY 1974 and FY 1975. We now believe that only five LHAs are needed. The FY 1972 Budget includes $110 million to terminate the multi-year contract, which was originally for nine LHAs, and to reduce the program to the five LHAs required in the assault ship mix for the current lift capability.

Further improvement in amphibious capability in FY 1972 will be provided by procurement of 450 more LVTP–7s (assault amphibian vehicles) for which $61 million is requested, and 24 more twin-engine UH–IN helicopters, with $21 million requested in the FY 1972 Budget for this program.

The age of our logistics and support fleet remains an important matter of concern for the long term. Therefore, the FY 1972 Budget includes funds for construction of one new oiler, two submarine tenders, and three ocean-going rescue and salvage ships at a cost of $354 million.

Strategic Airlift. We believe that as presently programmed, our strategic airlift will provide adequate resources to meet the spectrum of deployment requirements through the late 1970s. . . .

Tactical Airlift. . . . Twelve more C–130Es are included in the budget at a cost of $41 million. The STOL portion of the force has been reduced significantly by the transfer of six squadrons to the Vietnamese air force. We anticipate rebuilding the STOL force (starting in FY 1973) and we are now in the process of determining the appropriate replacement aircraft.

Sealift. The United States and its allies have substantial sealift assets. However, we face serious sealift problems in executing the rapid deployment concept required under our national strategy in the early stages of a contingency. The only immediate capability available to DOD is the Military Sealift Command Controlled Fleet. . . . We cannot rely solely on commercial shipping assets to meet our deployment needs early in a contingency for several reasons. First, even with Presidential requisitioning, marshalling commercial ships dispersed on the worldwide trade routes consumes valuable time. . . .

A second reason why we cannot rely exclusively on commercial ships is that too few of them have the capability to move the heavy, outsize unit equipment of our combat and combat support forces. The commercial trend is toward containerships and other specialized ship types. . . . Such specialized vessels can carry resupply cargoes, but are of little use in the early stages of a crisis when unit equipment must be rapidly deployed to a contingency. . . .

DOD's current shipping assets are quite limited. In the mid-1970s, without acquisition of new assets, the DOD-controlled strategic sealift force will be limited to three roll-on/roll-off vessels. In light of this fact and the shortcomings of the commercial fleet, we are attempting to obtain 10 Multi-Purpose Cargo Ships (MPS). . . . The MPSs will be privately built to DOD design specifications with the DOD charter contract serving as the necessary guarantee to induce commercial interest in the program. There would be no government expenditure of funds until the vessels are in the active fleet. At that time, the Government would make annual charter hire payments, as is done for other time-chartered vessels. DOD is also hopeful of obtaining nine shallow-draft tankers, which are not available commercially, under the same build and charter arrangement.

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Subtheater and Localized Programs for Deterrence

U.S. Capabilities for Quick Response. In some situations, timeliness of response or presence could be a much more important consideration than the maximum force that could be deployed in, say, 60 or 90 days.

Depending on the circumstances and area, the quick response forces could be drawn from the forward-deployed Fleet Marine Forces in the Atlantic, Pacific, and Mediterranean; 82nd Airborne Division in the United States; a brigade of the 25th Infantry Division in Hawaii; or the 8th Infantry Division in Europe. In addition, other ready brigades or battalions are available to theater commanders. Backing up these forces are the Marine division/wing teams on both the east and west coasts and one brigade in Hawaii, with its integral air support. All are ready to deploy on a few hours or days notice using available lift. Other tactical aircraft could be provided from the forward-deployed aircraft carriers and Air Force squadrons, or from U.S.-based aircraft carriers or tactical air squadrons that can deploy very rapidly.

The ability of naval forces to operate at sea near potential trouble spots also provides a special capability for response and flexible presence. Deployments of the Sixth and Seventh Fleets include not only the aircraft carriers and the amphibious assault capabilities already mentioned, but also a large number of escort ships and patrol aircraft. In addition, the current nucleus of small combatant craft (Fast Patrol Boats, Medium and Light SEAL Support Craft, etc.) provides a basis for creating a coastal and river patrol force should circumstances again warrant such a force.

Although the rapid deployment capabilities of U.S. forces are substantial, our goal is to minimize the need for such deployments in the future—by helping our allies to build their own military capabilities against localized aggression into self-reliant capabilities. As we proceed in this direction, we will also be considering modifications to our own forces, modifications which will enhance their complementary role, rather than a supplanting role.

Security Assistance. On a national basis, security assistance can be viewed from slightly different perspectives, depending on the area and type of assistance involved. For example, with regard to Western Europe and the Mediterranean area, our strong commitment to NATO requires that our security assistance planning be closely integrated with overall NATO plans for future forces. In general, security assistance requirements are to help those less capable countries fulfill their role in NATO defense plans, as well as to provide an element of stability in the eastern Mediterranean in the face of increased Soviet activity in the region.

. . . . In the general European area, where national economies are generally stronger, most of our assistance takes the form of cash and credit sales. This situation does not exist in Asia, however, and in that area, grant aid is generally emphasized.

In the Pacific and Asia, just as in Europe, our assistance programs must also be planned in consonance with our own force programs, but in a different sense. As we proceed with Vietnamization and implementing the Nixon Doctrine, we seek to replace some of our past military presence with stronger local capabilities, rather than just improving indigenous forces which complement our own retained capabilities.

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Toward Better Management of Human, Material and Economic Resources

Organization and Management

During the past year we have given considerable attention to the improvement of organization and management in DOD. The actions we have taken represent both a continuation of the efforts we began shortly after taking office in early 1969 and the initiation of new proposals drawn from our own subsequent experience and the work of the Blue Ribbon Defense Panel. Our management and organization efforts addresses three major areas:

- Our general approach to organization and management, including continuing actions to improve the overall effectiveness of DOD.
- Improvements in the management of military operations.
- Improvements in the process for developing and acquiring new weapon systems.

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Organization and Management and the Blue Ribbon Panel

In implementing our new management concepts we have deliberately chosen to use an orderly, sequential, step-by-step approach instead of attempting to make comprehensive adjustments all at once.

A measured, rather than precipitous, pace seems most wise to use. We intend to avoid unnecessary disruptions in defense capabilities while we make the transition from wartime to peacetime forces, incorporating the changes in force structure necessary to implement the Nixon Doctrine and the Strategy of Realistic Deterrence, and also needed to complement our transition toward an all-volunteer force.

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A Second Deputy Secretary of Defense

One major change in the organization of the Department which I have concluded is necessary is the establishment of an additional position at the Deputy Secretary of Defense level. My objective in recommending the creation of a second Deputy Secretary of Defense is to enhance civilian supervisory management.

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I will not permit this new position to limit access directly to me by the Military Chiefs or by the Secretaries of the Military Departments. As a matter of fact, I believe that this change will actually afford the Joint Chiefs of Staff and the Secretaries of the Military Departments an increased opportunity to present their views and their problems directly to the Secretary of Defense. I feel that creation of an additional Deputy Secretary of Defense will directly support our principle of participatory management.

My proposal differs significantly from the specific recommendations of the Blue Ribbon Defense Panel. That panel correctly identified the magnitude of the management task and responsibility placed upon the Secretary and the Deputy Secretary of Defense, and I fully support their conclusions about this workload. However, I am not now recommending and do not intend to recommend that the Office of the Secretary of Defense be functionally organized exactly as outlined in the detailed recommendations of the Blue Ribbon Defense Panel.

The creation of this new Deputy Secretary position will require Congressional action. . . . I will submit to the Congress the legislation necessary to accomplish this in the near future.

In that connection, the Blue Ribbon Defense Panel also recommended that five new Assistant Secretaries of Defense be established. Because of the modified approach we are pursuing to several of the Panel's recommendations, it is currently my intention to request legislative authority to create two additional Assistant Secretaries of Defense [Telecommunication and Intelligence] in contrast to the five recommended by the Panel.

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Other Changes

One area where both we and the Blue Ribbon Defense Panel saw a need for improvement was in the performance of our logistics system. The Panel recommended that we establish a unified Logistics Command within the Department to improve performance while at the same time achieving greater economy and efficiency. While we have decided not to create a monolithic logistics organization, we are moving to consolidate some logistics activities. [See article, "DOD Logistics Systems Objectives," page 32, in this issue.]

For example, in the field of transportation, we have announced plans to consolidate certain activities of the Navy's Military Sealift Command into the Army's Military Traffic Management and Terminal Services (MTMTS). After this consolidation is completed, MTMTS will be the single agency manager for all traffic management and procurement of surface transportation worldwide, except for intra-theater transportation in overseas areas. Deputy Secretary Packard has directed the Secretaries of the Army and Navy to submit a joint plan by late March to effect this consolidation. Reductions in operational costs will include establishment of a single computer system for all surface movements, and consolidation of industrial funds with consequent reduction in overhead and simplification of billing to military shippers. The Navy will retain responsibility for operating government-owned and certain chartered vessels; operation of vessels used for non-transportation purposes such as oceanography; and maintenance, operation and alteration of government-owned and certain chartered vessels. In addition, the Navy will continue to prepare recommendations for design, specifications and equipment of ocean-going vessels.

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Telecommunications

Telecommunications is another area where we have generally followed the Blue Ribbon Panel's recommendations. We have appointed an Assistant to the Secretary for Telecommunications, who is responsible for establishing DOD-wide communications policy and for coordination of DOD-wide communications effort. This already has improved our ability to bring the far-reaching communications problems of DOD under better management and control, and we look forward to getting further benefits in the future.

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Military Assistance

In recognition of the increased importance of Security Assistance programs, we are conducting within the Administration a comprehensive study of the procedures and organization for the planning and administration of the military assistance and foreign military sales programs—including military assistance for three Southeast Asian countries funded by the military services.

Based on the results of this study and on our concurrent review within the DOD, we expect to be able to revamp thoroughly our procedures and, thereby, improve substantially the management effectiveness with respect to these programs.

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Organization and Management of Research and Development

In the area of research and development, the Blue Ribbon Defense Panel recommended a number of changes to DOD management. These include abolishing the position of Director, Defense Research and Engineering (DDR&E), and reallocating his functions to two new Assistant Secretaries of Defense (ASDs), ASD—Research and Technology, and ASD—Engineering Development; making the Advanced Research Projects Agency (ARPA), which is now directly under DDR&E, into a Defense Agency; and establishing both a new ASD for Test and Evaluation and a new Defense Test Agency. The thrust of these recommendations was to separate the three related functions, Research and Advanced Technology, Engineering Development, and Test and Evaluation, and in doing so to give each area special and increased attention at the level of the Office of the Secretary of Defense.

Instead of establishing three new Assistant Secretaries for these three functions, we believe the same thing can be accomplished by designating three deputies within DDR&E, each with the responsibility for one of these functions.

Research and advanced technology will be given increased emphasis in the Office of the Director of Defense Research and Engineering, and new procedures will be established to insure that all areas of new technology applicable to national defense are being addressed. In the area of Engineering Development, although the military departments will assume full responsibility for the conduct of weapon system development, the Deputy Director of Defense Research and Engineering will be assigned coordinating responsibility and will concentrate on the policy and managerial aspects.

In order to upgrade and expand our attention to the test and evaluation of our defense systems and equipment, we are establishing within the Office of the Director of Defense Research and Engineeing (ODDR&E) an office under a Deputy Director for Test and Evaluation with full responsibility to coordinate and establish policy for all test and evaluation matters. We also plan to keep ARPA within DDR&E for the time being since we see no compelling reason to make it a Defense Agency. We also intend to retain the Defense Communications Planning Group (DCPG) as an action agency under DDR&E but we will retitle it the Defense Special Projects Group and expand its role to encompass a wide range of new projects.

Acquisition Process

It is not easy to identify all of the reasons for the difficulties now being encountered in the development and procurement of new weapon systems. Some of the reasons for the troubles we are having in the development and procurement area are described below, along with new procedures we intend to use in order to help alleviate some of them. There are no simple solutions to these problems, but we are convinced that a better approach than was used in the past must be developed and followed.

Many programs have had problems because they were poorly defined from the beginning. Frequently more performance was requested than was really needed in a new weapon. This tendency too often was encouraged by over-optimism in evaluation of the technical difficulties involved in achieving desired performance and also was encouraged by under-estimation of the time and cost that would be required for development. At the outset, too much emphasis frequently was placed on evaluating difficult technical areas by making paper studies rather than by actually developing some working hardware.

In order to help solve these problems, we are insisting that better decisions be made on specifications and schedules at the beginning of a program. We must ensure that specifications are reasonable and a system can be obtained in a realistic time frame.

Key problems also have arisen when programs have been too rigidly structured. Inadequate allowance too often has been made for trading off some system capabilities or characteristics in order to meet cost targets. Furthermore, the date for a new weapon to go into the inventory was in the past usually set earlier than was really necessary. This tended to create unnecessary concurrence between development and production, and to force a program into production before development was really finished.

Finding solutions to these problems is quite difficult. Our approach includes structuring development contracts to provide for tradeoffs between performance, time schedules and cost throughout the development program until the weapon is approved for production. In addition, we are encouraging the use of new, less structured approaches to the entire development and procurement process.

Finally, and most important, to be sure that the necessary work is properly completed before going to the next step of any program, we have requested that all new programs have proper milestones. These milestone checkpoints will be set up at least at the following stages: the beginning of major effort in advanced development; the start of full-scale development; and the time when production of the system is authorized. Projects will not proceed beyond these milestones until they are fully ready to do so.

A very crucial problem area in the past has been that project officers were not doing an adequate job. This resulted from many factors, including assignment of managers who were poorly selected or who lacked proper training for the job, inflexible service rotation policies which made it impossible for a manager to stay with a program long enough to be effective, and the effects of permitting too many people to get in on what the program manager should have been doing himself.

Solution of this problem requires that we select more capable project managers and staffs and leave them on the job long enough for them to be effective. We also must give project managers the special training in development and procurement they need in order to do their job properly. We are revamping and improving our Defense Weapon Systems Management Center to add this special training. The Center is being relocated from Wright-Patterson AFB, Ohio, to Fort Belvoir, Va., effective July 1971. Finally, we must clarify the project managers' responsibilities so they are not just errand boys for already over-burdened higher staff echelons.

The final major problem area of the past involves contract types. We have come to the conclusion that total package procurement contracts are simply not a practical way to handle important new weapon system development and acquisition programs. We are proposing that primary development reliance be placed on cost-incentive contracts. This will enable us to base development schedules on development milestones rather than on specific points in time. We believe that once development programs have been completed in a satisfactory way, fixed price contracting should normally be used for production contracts. After the parameters of a product have been carefully established and demonstrated in the development stage, contract negotiations to establish a fixed price production contract can be conducted on a sound basis.

I want to stress that under our participatory approach to management, the responsibility for managing a program rests with one of the military services; nevertheless, the Office of the Secretary of Defense will remain responsible for seeing that a project is administered in accordance with established policy guidelines. Using this approach, we will continue to seek improvements in military service management procedures, and in all aspects of the weapons acquisition process.

* * * * *

Defense and the Economy

In this section of my report, I will discuss the proposed FY 1972 Defense Budget in a broad context—in terms of inflation, general trends in defense spending, changing priorities, and the relationship of this budget to our new defense Strategy of Realistic Deterrence. Let me begin with this last item.

Our new strategy is based on my belief as Secretary of Defense that we can perform essential defense functions with a restructured U.S. military force that, in peacetime, requires no more than about 7 percent of Gross National Product or less and is made up of no more than about 2.5 million volunteers. Within these rough guidelines, we want to maintain a peacetime "baseline" force structure that with our allies will be sufficient to deter war by confronting potential aggressors with strong and effective fighting forces.

The forces proposed in FY 1972 with minor modifications discussed earlier represent our best estimate of the "baseline" forces needed for our new strategy during the FY 1972–76 planning period, while providing the basis for adjustments to our capabilities should that become necessary or desirable.

It is useful to view FY 1972 as the year when we return our budget and manpower levels to those that prevailed prior to the Vietnam war. It is within this budget and overall force level that we are making necessary changes in our capabilities so that, together with the growing capabilities of our friends and allies, an effective and realistic Free World security strategy can and will successfully deter war and secure the President's goal of a lasting peace.

In this section, an explanation of budget and manpower trends is provided in order to indicate how we reached this peacetime baseline in budgets and forces.

Turning to the magnitude of our FY 1972 Defense Budget and Programs, let me summarize certain key facts:

- Defense programs continue to be affected by strong inflationary pressures, especially with respect to pay rates and other manpower costs.
- Defense programs in real terms —that is, in dollars of constant buy-

ing power—decline by about 5 percent from FY 1971 to FY 1972. The FY 1972 program is about 24 percent below the wartime peak of FY 1968.

- The FY 1972 Defense Budget, in dollars of constant buying power, is about equal to the prewar (FY 1964) level, *i.e.*, with the FY 1972 Budget, the additional money previously required for prosecution of the Vietnam war is no longer needed and can be applied to other federal programs.
- The FY 1972 Budget reflects a continuation of President Nixon's program for reordering priorities. This has produced major cuts in the money and manpower allocated to DOD, with these reductions (plus all economic growth) allocated to the civilian sector.
- The sharp cutbacks in DOD programs over the past two years have obviously had a major bearing upon the performance of the economy, and have contributed to the sharp rise in unemployment. The sharpest of these cuts are now behind us, and the future impact of defense cutbacks will be much more gradual. This fact, coupled with other developments, produces a more favorable employment outlook.

* * * * *

Defense Program and Employment Trends

The Defense Budget (in constant prices) rose from $75.8 billion in FY 1964 to a peak of $99.9 billion in FY 1968, then is expected to drop to $79.6 billion in FY 1971 and $76 billion in FY 1972—a drop of $23.9 billion, roughly 24 percent from the wartime peak.

* * * * *

Manpower is an important part of the defense cutback. Table 5 shows all DOD-related manpower, including defense-related employment in industry.

Military manpower in the years immediately preceding the war ranged from 2.8 million in 1962 to about 2.7 million in 1963–65. Civilian employment was 1,035,000 in 1964, and prior to then at or slightly above that level. Certain positions previously military have been converted to civilian since 1964, so the military-civilian mix is slightly different than prewar.

As the figures show, by the end of FY 1972, defense-related manpower will be down sharply from the FY 1968 peak—nearly 2.6 million, or nearly one-third. Also, total defense-related manpower will be down by 253,000 from the prewar level.

In summary, I want to emphasize once again that with this budget all of the wartime buildup in manpower and money has been removed. Defense manpower, as I have shown, is below the prewar levels, while defense purchases, in constant dollars, are also below those levels.

Let me now turn to one other significant area with regard to defense employment trends. The impact of both direct and related defense manpower reductions, and their effects on the nation's unemployment level has been of considerable concern. Although defense cutbacks are continuing in FY 1972, the rate will fall off significantly and the future employment picture looks much more favorable when coupled with more expansionist government economic policies.

For example, from Table 5 we can see that direct DOD employment should drop just over 1 million in the three-year period between FY 1968–1971, or about 340,000 per year. During FY 1972, it will drop some 216,000. A similar trend is true for defense-related employment, which decreased about 1.2 million between FY 1968–1971 (about 410,000 per year), but should drop about 80,000 during FY 1972. Combining both figures, we see that total defense and defense-related job cutbacks averaged about 750,000 per year between 1968–1971, but will be less than half, or about 300,000 during FY 1972.

Table No. 5

DOD-Related Manpower

(June 30, in thousands)

	1964	1968	1971	1972
Military personnel	2,685	3,547	2,699	2,505
Civilians	1,035	1,287	1,104	1,082
Total direct	3,720	4,834	3,803	3,587
Defense related employment in industry	2,280	3,470	2,240	2,160
Total DOD-related manpower	6,000	8,304	6,043	5,747

Changing Priorities

The shift in our priorities, away from defense and to civilian pursuits, has been massive. The size and price of this change is not generally appreciated. Table 6 presents key data highlighting these developments.

As can be seen from the table, in current dollars (not adjusted for price changes) defense spending rises by $25.2 billion from FY 1964 to FY 1972—almost entirely due to inflation and personnel cost increases, as we have noted. Other Federal spending, and state and local spending, will each rise by about $90 billion in the same period—also subject to inflation.

The constant price figures, adjusted for pay and price increases are much more significant. Defense spending rose by $24.1 billion from FY 1964 to FY 1968, and falls by $23.9 billion from FY 1968 to FY 1972, so that real defense spending in FY 1972 is slightly above the FY 1964 level. Other Federal spending grows by $68.3 billion price adjusted, and state and local spending by $58.6 billion. This means that public spending (in constant prices) grows by over $125 billion from the prewar level—practically all of it for non-defense programs.

The change in the FY 1968 to FY 1972 period is especially significant. Defense spending drops by $23.9 billion, while other Federal spending grows by $36.4 billion. This means that two-thirds of the real increase in civilian spending can be viewed as having been financed by defense cutbacks. Civilian programs are increasing by $36.4 billion, while the Federal budget total (in real terms) increases by about one-third of that amount.

The picture is the same for public employment, including military personnel. Defense grew sharply from FY 1964 to FY 1968, and falls even more sharply from FY 1968 to FY 1972. The result is that practically the entire increase in public employment since 1964 is at the state and local level, with defense cuts offsetting part of the increases in Federal civilian agency employment.

The labor force data are especially significant. Note that the total U.S. labor force will increase by 13.2 million from 1964 to 1972. This is an unprecedented growth, the result of the post-World War II baby boom.

From 1964 to 1968, defense (including industry employment) absorbed one-third (about 2.2 million) of the labor force growth, which was estimated at 6.8 million in those four years. From 1968 to 1972, we are turning all these people back. Although the total labor force change is an increase of 6.4 million people, cutbacks in the defense labor force mean that 9 million people will become available for non-defense work in the years 1968–1972, about twice as many as in the preceding four years.

And from 1964 to 1972, the number of people available for non-defense work will grow by 13.5 million—the entire growth in the labor force, and then some again owing to cutbacks in the defense labor force that make additional people available for the non-defense sector of the economy.

Table No. 6

Changing Priorities

	FY 1964 to FY 1968	FY 1968 to FY 1972	FY 1964 to FY 1972
Change (current $ billions) in:			
Defense Spending	$+27.2	$−2.0	$+25.2
Other Federal Spending	+34.8	+55.5	+90.3
State and Local Spending	+36.2	+53.7	+89.9
Change (constant FY 1972 $ billions) in:			
Defense Spending	$+24.1	$−23.9	$+.2
Other Federal Spending	+31.9	+36.4	+68.3
State and Local Spending	+29.6	+29.0	+58.6
Public Employment (000)			
Defense (includes military)	+1,114	−1,247	−133
Other Federal	+230	+149	+379
State and Local	+2,229	+1,849	+4,078
Total, Public Employment	+3,573	+751	+4,324
Total labor force (000)			
Defense [a]	+2,232	−2,508	−276
All Other	+4,542	+8,951	+13,493
Total Labor Force Change [a]	+6,774	+6,443	+13,217

	Defense Spending		
	GNP	Federal Budget	Net public spending (Federal, State & local)
FY 1950 (pre-Korea)	4.5%	27.7%	19.2%
FY 1953 (Korea peak)	13.3	62.1	47.6
FY 1964 (last peacetime year)	8.3	41.8	28.8
FY 1968 (Southeast Asia peak)	9.5	42.5	29.2
FY 1970	8.1	38.4	25.5
FY 1971	7.4	33.9	22.3
FY 1972	6.8	32.1	20.9

[a] Includes military personnel, civilians employed in the United States, and DOD-related employment in U.S. industry.

Turning now to another aspect of a change in priorities, the lower part of the table presents data for selected years relating defense to the total economy and to public spending.

Defense spending in FY 1972 will amount to 6.8 percent of the Gross National Product (GNP), compared to 9.5 percent at the wartime 1968 peak and 13.3 percent at the Korea peak. This 6.8 percent is significantly lower than the prewar figure, 8.3 percent in 1964.

As to Federal spending, the defense budget for FY 1972 is 32.1 percent of the total, compared to the 42.5 percent at the wartime 1968 peak and 62.1 percent at the peak of the Korean War. The 1972 percentage is nearly 10 points below the 41.8 percent that pertained for prewar 1964.

The same pattern pertains in comparing defense spending with net total public spending—Federal, state and local with grants-in-aid and other offsets netted out. Defense spending will account for 20.9 percent of all public spending in FY 1972, significantly below the levels in FY 1968, FY 1964, and FY 1953.

In all three of these areas, the defense percentages for FY 1972 are the smallest that have pertained for more than 20 years. That is, we are devoting a smaller share of our economy to defense, and of our public spending, than we have since FY 1950. The 1948–50 period, you will recall, marks the low point of our defense effort since World War II.

In summary, I would like to point out some orders of magnitude. Note, for example, that non-defense Federal spending grows by $90.3 billion for 1964 to 1972. State and local spending grows by $89.9 billion. Both of these *increase* amounts are much larger than the *entire* Defense Budget. Note also that defense spending is 20.9 percent of the public spending total. Other Federal spending is more than twice as great as Defense; so is state and local spending.

In the context of huge changes such as these, Defense spending—especially potential future changes in Defense spending—does not loom very large.

The Defense Budget no longer consumes the large percentages of our government resources that it did in the 1950s. In those years, it could play a key role in financing increases in other segments of the Federal Budget—and in the employment and unemployment trends. But as a result of this changed complexion of the Federal Budget, the opportunity to use changes in the Defense Program to finance non-Defense Programs is significantly reduced. Thus, the period of defense dominance in resource allocation is over.

Financial Tables Relating to Defense Department Budget FY 1972

Table No. 7

Financial Summary

(Millions of Dollars)

	FY 1964	FY 1968	FY 1970	FY 1971	FY 1972
Summary by Program					
Strategic Forces	8,503	7,341	7,358	7,737	7,639
General Purpose Forces	16,507	30,495	27,650	24,142	24,278
Intelligence and Communications	4,313	5,553	5,613	5,396	5,625
Airlift and Sealift	1,076	1,810	1,709	1,376	1,139
Guard and Reserve Forces	1,764	2,200	2,570	2,686	3,141
Research and Development	4,872	4,322	4,870	5,229	6,096
Central Supply and Maintenance	4,626	8,395	9,091	8,399	8,721
Tng, Medical, Other Gen Pers Activities	6,946	12,207	13,721	13,861	13,650
Admin and Assoc Activities	1,083	1,230	1,469	1,581	1,510
Support of Other Nations	1,063	2,365	2,731	3,887	3,671
Military and Civilian Pay Increase	—	—	—	1,000	2,560
Volunteer Armed Force	—	—	—	—	1,200
Total—Direct Program (TOA)	50,753	75,919	76,782	75,291	79,230
Summary by Component					
Department of the Army	12,271	25,064	24,151	22,101	21,468
Department of the Navy	14,500	20,869	22,710	21,766	23,347
Department of the Air Force	20,018	25,052	24,170	22,914	22,827
Defense Agencies/OSD	1,007	1,503	1,723	1,734	1,787
Defense-wide	1,857	2,758	3,499	4,228	4,721
Civil Defense	111	86	70	73	78
Military and Civilian Pay Increase	—	—	—	1,000	2,560
Volunteer Armed Force	—	—	—	—	1,200
Military Assistance Program	989	588	459	1,475	1,242
Total—Direct Program (TOA)	50,753	75,919	76,782	75,291	79,230
Summary by Functional Classification					
Military Personnel	12,988	19,939	22,978	21,971	20,164
Retired Pay	1,211	2,093	2,853	3,387	3,744
Operation and Maintenance	11,700	20,907	21,516	20,164	20,270
Procurement	15,126	22,856	19,860	17,974	19,720
Research, Develop, Test & Eval	7,049	7,285	7,451	7,109	7,888
Special Foreign Currency Program	—	—	5	8	12
Military Construction	977	1,543	994	1,395	1,482
Family Housing	602	621	597	735	870
Civil Defense	111	86	70	73	78
Military and Civilian Pay Increase	—	—	—	1,000	2,560
Volunteer Armed Force	—	—	—	—	1,200
Military Assistance Program	989	588	459	1,475	1,242
Total—Direct Program (TOA)	50,753	75,919	76,782	75,291	79,230
Financing Adjustments	169	483	−2,303	−2,594	−487
Budget Authority (NOA)	50,922	76,402	74,479	72,698	78,743
Outlays	50,786	78,027	77,880	74,500	76,000

Table No. 8

Direct Budget Plan (TOA), Budget Authority, and Outlays

Fiscal Years 1970–1972 by Functional Classification and Component

(Millions of Dollars)

	Dept. of Defense—Total			Dept. of the Army			Dept. of the Navy			Dept. of the Air Force			Def. Ags./OSD/OCD/ MAP/Undist.		
	FY 1970	FY 1971	FY 1972	FY 1970	FY 1971	FY 1972	FY 1970	FY 1971	FY 1972	FY 1970	FY 1971	FY 1972	FY 1970	FY 1971	FY 1972
Military Personnel															
Active Forces	21,845	20,760	18,892	8,866	8,387	7,098	6,481	6,049	5,618	6,498	6,324	6,176	—	—	—
Reserve Forces	1,133	1,210	1,272	749	791	822	191	206	227	193	213	223	—	—	—
Total—Military Personnel	22,978	21,971	20,164	9,616	9,178	7,920	6,672	6,255	5,845	6,690	6,538	6,399	—	—	—
Retired Military Personnel	2,853	3,387	3,744	—	—	—	—	—	—	—	—	—	2,853	3,387	3,744
Operation and Maintenance	21,516	20,164	20,270	7,817	7,047	7,092	5,629	5,260	5,337	6,865	6,634	6,600	1,205	1,223	1,240
Procurement															
Aircraft	6,364	6,180	6,401	440	239	124	2,018	2,370	3,354	3,906	3,570	2,922	—	—	—
Missiles	3,159	3,382	3,772	811	984	1,101	816	904	727	1,532	1,494	1,944	—	—	—
Ships	2,464	2,590	3,329	—	—	—	2,464	2,590	3,329	—	—	—	—	—	—
Combat Vehicles, Weapons & Torpedoes	546	493	476	310	273	205	228	220	272	8	—	—	—	—	—
Ordnance, Vehicles & Related Equipment	4,146	2,856	3,226	2,157	1,522	1,821	961	476	577	1,027	857	825	—	1	3
Electronics & Communications	1,140	838	795	345	218	172	407	354	354	372	261	256	17	6	13
Other Procurement	2,041	1,634	1,721	602	336	396	942	814	729	428	452	545	69	33	50
Total—Procurement	19,860	17,974	19,720	4,666	3,572	3,819	7,836	7,728	9,342	7,273	6,634	6,493	86	40	67
Research, Development, Test, & Evaluation															
Military Sciences	509	510	541	164	165	180	138	136	143	137	138	140	70	70	79
Aircraft	1,641	1,643	1,988	81	125	198	823	762	638	737	756	1,152	—	—	—
Missiles	2,280	2,043	2,011	858	811	961	468	466	560	888	702	412	67	64	78
Military Astronautics	638	467	499	9	7	13	17	29	49	608	429	434	3	3	3
Ships & Small Craft	305	338	490	—	—	—	304	338	490	—	—	—	—	—	—
Ordnance, Vehicles & Related Equipment	332	340	351	156	154	158	102	97	98	74	89	95	—	—	—
Other Equipment	1,188	1,176	1,390	319	286	358	260	224	269	302	361	438	308	304	324
Program-wide Management & Support	558	543	567	53	54	64	160	144	161	335	334	330	11	11	13
Emergency Fund	—	50	50	—	—	—	—	—	—	—	—	—	—	50	50
Total—Research, Develop., Test, & Eval.	7,451	7,109	7,888	1,639	1,602	1,932	2,272	2,196	2,407	3,081	2,810	3,002	459	501	547
Military Construction	994	1,395	1,482	414	702	705	302	327	416	261	299	333	17	68	28
Family Housing	597	735	870	—	—	—	—	—	—	—	—	—	597	735	870
Civil Defense	70	73	78	—	—	—	—	—	—	—	—	—	70	73	78
Special Foreign Currency Program	5	8	12	—	—	—	—	—	—	—	—	—	5	8	12
Military and Civilian Pay Increase	—	1,000	2,560	—	—	—	—	—	—	—	—	—	—	1,000	2,560
Volunteer Armed Force	—	—	1,200	—	—	—	—	—	—	—	—	—	—	—	1,200
Total—Military Functions	76,323	73,816	77,988	24,151	22,101	21,468	22,710	21,766	23,347	24,170	22,914	22,827	5,292	7,035	10,346
Military Assistance	459	1,475	1,242	—	—	—	—	—	—	—	—	—	459	1,475	1,242
TOA Total—Department of Defense	76,782	75,291	79,230	24,151	22,101	21,468	22,710	21,766	23,347	24,170	22,914	22,827	5,751	8,510	11,588
Financing Adjustments	−2,073	−2,257	−211	−495	−879	−99	−749	−613	−20	−788	−685	−31	−41	−80	−61
Trust Funds & Offsetting Receipts	−231	−336	−276	−47	−42	−43	−34	−40	−40	−26	−54	−25	−124	−200	−168
Budget Authority (NOA)	74,479	72,698	78,743	23,610	21,180	21,326	21,927	21,113	23,287	23,356	22,175	22,771	5,586	8,230	11,359
Outlays	77,880	74,500	76,000	24,749	22,063	21,025	22,505	21,324	21,275	24,867	23,368	22,855	5,759	7,744	10,844
Military and Civilian Pay Increase	—	(945)	(2,430)	—	xx	xx	—	xx	xx	—	xx	xx	—	(945)	(2,430)
Volunteer Armed Force	—	—	(1,150)	—	—	xx	—	—	xx	—	—	xx	—	—	(1,150)

Obligational Authority, Budget Authority, and Outlays

Fiscal Years 1970–1972

(Millions of Dollars)

	Direct Budget Plan (TOA)			Budget Authority (NOA)			Outlays		
	FY 1970	FY 1971	FY 1972	FY 1970	FY 1971	FY 1972	FY 1970	FY 1971	FY 1972
Functional Classification									
Military Personnel									
Active Forces	21,845	20,760	18,892	21,848	20,760	18,892	21,977	20,516	18,870
Reserve Forces	1,133	1,210	1,272	1,146	1,210	1,272	1,054	1,182	1,235
Total—Military Personnel	22,978	21,971	20,164	22,995	21,971	20,164	23,031	21,698	20,105
Retired Military Personnel	2,853	3,387	3,744	2,858	3,387	3,744	2,849	3,394	3,744
Operation and Maintenance	21,516	20,164	20,270	21,529	20,161	20,270	21,609	20,380	20,234
Procurement	19,860	17,974	19,720	17,867	15,938	19,570	21,584	18,448	17,936
Research, Development, Test, & Eval.	7,451	7,109	7,888	7,406	7,013	7,888	7,166	7,281	7,504
Military Construction	994	1,395	1,482	960	1,322	1,479	1,168	1,200	1,523
Family Housing	597	735	870	604	716	838	614	629	726
Civil Defense	70	73	78	70	73	78	80	74	77
Special Foreign Currency Program	5	8	12	—	3	12	1	3	5
Revolving and Management Funds	—	—	—	—	—	—	−807	−506	−320
Offsetting Receipts	—	—	—	−141	−177	−141	−141	−177	−141
Trust Funds	—	—	—	7	7	6	2	8	8
Intragovernmental Transactions	—	—	—	−7	−6	−6	−7	−6	−6
Military and Civilian Pay Increase	—	1,000	2,560	—	1,000	2,560	—	945	2,430
Volunteer Armed Forces	—	—	1,200	—	—	1,200	—	—	1,150
Total—Military Functions	76,323	73,816	77,988	74,149	71,408	77,663	77,150	73,370	74,975
Military Assistance									
Military Assistance—Gen. Accts.	459	1,475	1,242	420	1,450	1,215	609	1,205	1,110
MAP Offsetting Receipts-Fed. Funds	—	—	—	−16	−30	−85	−16	−30	−85
MAP Trust Funds	—	—	—	738	850	850	950	935	900
MAP Offsetting Rects.—Trust Funds	—	—	—	−813	−980	−900	−813	−980	−900
Total—Military Assistance	459	1,475	1,242	330	1,290	1,080	731	1,130	1,025
Grand Total—Dept. of Defense	76,782	75,291	79,230	74,479	72,698	78,743	77,880	74,500	76,000
Summary by Component									
Department of the Army	24,151	22,101	21,468	23,610	21,180	21,326	24,749	22,063	21,025
Department of the Navy	22,710	21,766	23,347	21,927	21,113	23,287	22,505	21,324	21,275
Department of the Air Force	24,170	22,914	22,827	23,356	22,175	22,771	24,867	23,368	22,855
Defense Agencies/OSD	1,723	1,734	1,787	1,679	1,666	1,751	1,442	1,510	1,597
Defense-wide	3,499	4,228	4,721	3,506	4,201	4,690	3,506	4,085	4,564
Civil Defense	70	73	78	70	73	78	80	74	77
Military and Civilian Pay Increase	—	1,000	2,560	—	1,000	2,560	—	945	2,430
Volunteer Armed Force	—	—	1,200	—	—	1,200	—	—	1,150
Military Assistance	459	1,475	1,242	330	1,290	1,080	731	1,130	1,025
Total—Department of Defense	76,782	75,291	79,230	74,479	72,698	78,743	77,880	74,500	76,000

Table No. 10

Obligational Authority (TOA) and Outlays by Functional Title

Fiscal Years 1964–1972

(Millions of Dollars)

Functional Classification	Obligational Authority (TOA) FY 1964	FY 1968	FY 1970	FT 1971	FY 1972	Outlays FY 1964	FY 1968	FY 1970	FY 1971	FY 1972
Military Personnel										
Active Forces	12,293	19,064	21,845	20,760	18,892	12,312	18,988	21,977	20,516	18,870
Reserve Forces	695	875	1,133	1,210	1,272	674	871	1,054	1,182	1,235
Total—Military Personnel	12,988	19,939	22,978	21,971	20,164	12,986	19,859	23,031	21,698	20,105
Retired Military Personnel	1,211	2,093	2,853	3,387	3,744	1,209	2,095	2,849	3,394	3,744
Operation and Maintenance	11,700	20,907	21,516	20,164	20,270	11,932	20,578	21,609	20,380	20,234
Procurement										
Aircraft	5,889	9,333	6,364	6,180	6,401	6,053	9,462	7,948	6,603	6,167
Missiles	3,330	2,491	3,159	3,382	3,772	3,577	2,219	2,912	3,036	[illegible]
Ships	2,042	1,112	2,464	2,590	3,329	2,078	1,356	2,066	1,993	2,268
Combat Vehicles, Weapons and Torpedoes	([a])	794	546	493	476	([a])	738	647	[illegible]	413
Ordnance, Vehicles & Related Equipment	1,603	5,711	4,146	2,856	3,226	1,597	5,709	4,973	3,686	3,197
Electronics and Communications	1,357	1,498	1,140	838	795	[illegible]	[illegible]	[illegible]	1,040	917
Other Procurement	905	2,007	2,041	1,634	1,721	782	2,204	1,857	1,629	1,626
Total—Procurement	15,126	22,856	19,860	17,974	19,720	15,351	23,283	21,584	18,448	17,936
Research, Development, Test, & Evaluation	7,049	7,285	7,451	7,109	7,888	7,021	7,747	7,166	7,281	7,534
Military Construction	977	1,543	994	[illegible]	1,482	1,026	1,281	1,168	1,200	1,523
Family Housing	602	621	597	735	870	580	495	614	629	726
Civil Defense	111	86	70	73	78	107	108	80	74	77
Special Foreign Currency Program	—	—	5	8	12	—	2	1	3	5
Revolving and Management Funds						−452	2,090	−807	−506	−320
Trust Funds and Offsetting Receipts [b]						−183	−164	−145	−175	−139
Military and Civilian Pay Increase	—	—	—	1,000	2,560	—	—	—	945	2,430
Volunteer Armed Force	—	—	—	—	1,200	—	—	—	—	1,150
Total—Military Functions	49,764	75,331	76,323	73,816	77,988	49,577	77,373	77,150	73,370	74,975
Military Assistance	989	588	459	1,475	1,242	1,485	601	609	1,205	1,110
MAP Trust Fund and Offsetting Receipts [b]						−276	53	122	−75	−85
Total—Military Assistance						1,209	654	731	1,130	1,025
Total—Department of Defense	50,753	75,919	76,782	75,291	79,230	50,786	78,027	77,880	74,500	76,000
Summary by Component										
Department of the Army	12,271	25,064	24,151	22,101	21,468	12,011	25,223	24,749	22,063	21,025
Department of the Navy	14,500	20,869	22,710	21,766	23,347	14,466	22,071	22,505	21,824	21,275
Department of the Air Force	20,018	[illegible]	24,170	22,914	22,827	20,456	25,734	24,867	[illegible]	22,855
Defense Agencies/OSD	1,007	1,503	1,723	1,734	1,787	695	1,606	[illegible]	1,510	1,597
Defense-wide	1,857	[illegible]	3,499	4,228	4,721	1,842	2,631	3,506	4,085	4,564
Civil Defense	111	86	70	73	78	107	108	80	74	77
Military and Civilian Pay Increase	—	—	—	1,000	2,560	—	—	—	945	2,430
Volunteer Armed Force	—	—	—	—	1,200	—	—	—	—	1,150
Military Assistance	989	588	459	1,475	1,242	1,209	654	731	1,130	1,025
Total—Department of Defense	50,753	75,919	76,782	75,291	79,230	50,736	78,027	77,880	74,500	76,000

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[a] Amount included in entry for "Ordnance, Vehicles and Related Equipment."

[b] Trust funds, offsetting receipts, etc. are estimated for fiscal year 1964.

Table No. 11

Defense Budget Comparisons

Current and Constant Dollar Outlays—By Title

(Billions of Dollars)

	FY 1964	FY 1968	FY 1971	FY 1972
Current Dollars				
Military Personnel	13.0	19.9	22.3	21.5
Retired Military Pay	1.2	2.1	3.4	3.8
Operation and Maintenance	11.9	20.6	20.7	21.0
Procurement	15.4	23.3	18.4	17.9
Research, Development, Test and Evaluation	7.0	7.7	7.3	7.5
Military Construction	1.0	1.3	1.2	1.5
Family Housing	.6	.5	.6	.7
Civil Defense	.1	.1	.1	.1
Military Assistance	1.2	.7	1.1	1.0
Volunteer Armed Force	—	—	—	1.4
Other	–.6	1.9	–.7	–.5
Total—Current Dollars	50.8	78.0	74.5	76.0
Constant FY 1972 Budget Prices				
Military Personnel	21.4	27.2	23.8	21.5
Retired Military Pay	3.8	3.8	3.8	3.8
Operation and Maintenance	17.2	25.7	21.5	21.0
Procurement	19.8	27.3	19.1	17.9
Research, Development, Test and Evaluation	9.3	9.3	7.6	7.5
Military Construction	1.3	1.5	1.2	1.5
Family Housing	.8	.6	.7	.7
Civil Defense	.1	.1	.1	.1
Military Assistance	1.6	.8	1.2	1.0
Volunteer Armed Force	1.4	1.4	1.4	1.4
Other	–.8	2.2	–.7	–.5
Total—FY 1972 Budget Prices	75.8	99.9	79.6	76.0

Note: This table reflects distribution, by title. of the January 1971 and January 1972 military and civilian pay increases.

Table No. 12

Major Procurement Item Quantities

FY 1970, 1971 and 1972 Programs

	FY 1970 Program	FY 1971 Program	FY 1972 Program
Aircraft			
Army	1,005	802	400
Navy and Marine Corps	339	268	290
Air Force	552	558	188
Total—Aircraft	1,896	1,628	878
Helicopters	(1,247)	(1,129)	(442)
Fixed Wing Aircraft	(649)	(499)	(436)
Missiles			
Army	33,079	19,076	16,033
Navy and Marine Corps	3,051	3,141	2,458
Air Force	1,600	542	3,035
Total—Missiles	37,730	22,759	21,526
Ships—Navy			
New Construction	10	15	19
Conversions	5	10	9
Total—Ships	15	25	28
Tracked Combat Vehicles			
Army	3,754	1,800	360
Marine Corps	117	298	509
Total—Tracked Combat Vehicles	3,871	2,098	869
Torpedoes—Navy	152	211	422
Other Weapons			
Army	466,622	274,039	2,480
Navy and Marine Corps	11,148	1,316	220
Air Force	1,392	—	—
Total—Other Weapons	479,162	275,355	2,700

Table No. 13

Active Duty Military Personnel Civilian Personnel and Reserve Component Strength

(Fiscal Year End, in Thousands)

	1964	1968	1970	1971	1972
Direct-Hire Civilian					
Army [1]	360	462	411	398	390
Navy	332	419	376	349	339
Air Force [1]	305	331	306	294	291
Defense Agencies	38	75	68	64	62
Total [1]	1,035	1,287	1,161	1,104	1,082
Active Duty Military					
Army	972	1,570	1,322	1,107	942
Navy	667	765	693	623	604
Marine Corps	190	307	260	212	206
Air Force	856	905	791	757	753
Total	2,685	3,547	3,066	2,699	2,505
Reserve Components (in paid status)					
Army National Guard	382	389	409	400	400
Army Reserve	346	312	308	308	308
Naval Reserve	132	131	131	143	132
Marine Corps Reserve	48	48	49	50	45
Air National Guard	73	75	90	89	89
Air Force Reserve	67	46	52	51	51
Defense Related Employment in Industry	2,280	3,470	2,775	2,240	2,160

[1] These totals include Army and Air National Guard technicians, who were converted from state to Federal employees in FY 1969. The FY 1964 and 1968 totals have been adjusted to include approximately 38,000 and 39,000 technicians respectively.

DOD Logistics Systems Policy Objectives

In a memorandum to the Secretaries of the Military Departments and Director of the Defense Supply Agency on Jan. 15, 1971, Deputy Secretary of Defense David Packard promulgated the first increment of DOD Logistics Systems Policy Objectives through 1975. This increment relates to supply and maintenance. Other logistics objectives will be forthcoming.

Secretary of Defense Melvin R. Laird and Deputy Secretary Packard do not intend to establish a single DOD-wide logistics command at this time, as had been recommended by the Blue Ribbon Defense Panel. Secretary Packard said that there was much to agree with in the panel's report, but that deficiencies could be corrected within the framework of the present logistics structure.

The objectives will be incorporated in a DOD Logistics Systems Plan being developed under the direction of a policy committee. The committee is responsible for structuring implementing actions, with due consideration for mission accomplishment, system effectiveness, resource expenditure, and risk. These considerations will govern in developing rules of application for each objective so that, taken in combination, the objectives provide responsive support to operating forces as they perform their assigned roles and missions.

"None of these objectives, individually or collectively," stated Secretary Packard, "should be construed to intend a 'Fourth Service of Supply.' On the contrary, these objectives should provide us with the policies necessary to maintain the separate logistics organizations for the Military Departments while we continue our progress toward eliminating unnecessary duplication and expenditures."

In introducing the "Logistics Systems Policy Objectives, 1970–1975," Secretary Packard stated:

"Logistics systems exist solely to provide responsive support to the operating forces. Supporting materiel management systems will be designed and operated with this paramount fact in mind. Present and future resource limitations, nevertheless, demand maximum efficiency, elimination of unnecessary duplication and common use of systems, facilities, services, functions and inventories wherever operationally acceptable and economically beneficial.

"These objectives set forth broad goals whose attainment will result in more efficient and effective logistics operations. Actions implementing these objectives will include analysis to determine effective and efficient policies, systems and procedures based upon consideration of mission accomplishment, system performance, resource expenditure and risk."

The objectives, which follow, will be interpreted in the context of this introductory statement.

Item Management Duplication. There will be only one inventory control point for any item used in DOD to the extent practical. In general, the Military Services should manage the weapon systems, including ammunition, major end items of equipment, depot level reparables and items of a developmental nature, regardless of the number of user Services; while items repaired below depot level, consumables, and repair parts should be considered for transition to integrated materiel management under approved item management coding criteria.

Item Ranges. The Military Services and the Defense Supply Agency will operate their materiel management systems with the minimum number of items essential to support military operations. Unnecessary variety of kinds, types and sizes will be eliminated through upgraded item entry control and item standardization efforts. Inactive and slow moving items, and items having marginal significance, will be reviewed continually on the basis of total system and program analysis for removal from DOD inventories.

Inventory Control Points. The Military Services and the Defense Supply Agency will operate the minimum number of inventory control points consistent with their assigned weapon system support functions, supply management, and technical responsibility. The alignment of item ranges to each inventory control point will provide for the maximum number of items it can efficiently manage, with due allowance for a surge capability to meet contingency/emergency conditions.

Reliance on Integrated Materiel Managers. All DOD components [military departments and defense agencies] will minimize retail supply levels of integrated items and place maximum reliance on direct support from integrated wholesale supply systems.

Support for Weapon System Managers. Inventory control points will establish the necessary flexibility in their systems to be fully responsive to the requirements of weapon system managers of the Military Services; conversely, weapon system managers must place maximum reliance on the existing standard DOD supply systems and item ranges, and minimize the establishment of duplicative dedicated systems and inventories.

Item Identification. Inventory control points will make all reasonable efforts to fully identify and describe new items entering the supply system and will assure, in conjunction with appropriate program managers, that pertinent technical data is acquired and provided at the time of introduction of items into the supply system.

Inventory Visibility and Control. DOD materiel managers will, for each item managed, develop, maintain and exercise the capability for effective and comprehensive visibility and control of inventories. For selected items, in accordance with DOD Instruction 4140.37, visibility and control will be extended from the point of production to the point of issue and may be further extended to in-use items when warranted by nature of the item, cost, criticality, or other considerations.

Inter-Service Use of DOD Inventories. DOD materiel managers will minimize the expenditure of new procurement dollars in stock replenishment and will maximize the inter-Service use of existing DOD inventories by expanding and utilizing cost-effective standard inter-Service procedures.

Unneeded Inventories. DOD materiel managers will reduce overall inventory levels by expanding and maintaining continuous surveillance of current and projected DOD needs and will promptly initiate disposal action on inventories determined to be in excess of such needs.

Common Supply Support in Overseas Areas. A Military Service in a specified overseas area will be designated to provide common supply support of selected common-use items and commodities to all DOD customers in the area during peacetime and contingency/emergency conditions.

Overseas Stockage. Military Services will minimize item ranges and levels in overseas areas, relying to the maximum feasible extent on rapid resupply from continental U.S. wholesale stocks.

Wholesale Ownership of Inventories. Expense type materiel will be carried in Stock Funds and retained under the accountability of the appropriate inventory manager from the point of purchase to that point in the distribution system which will provide optimum cost effectiveness and yet protect the operational capability.

Inter-Service Use of Common Services. Military Services and Defense Agencies will actively seek opportunities to provide for the performance of common services, *e.g.*, laundry, commissary, and to integrate common functions, *e.g.*, coordinated procurement.

Inter-Service Use of Depot Maintenance Facilities. Military Services and Defense Agencies will actively seek opportunities to consolidate common depot maintenance functions (particularly where commonly used commodities are involved).

Inter-Service Use of Transportation Services. Military Services and Defense Agencies will actively seek opportunities to jointly employ common transportation services operated or contracted by DOD.

Supply Discipline. Military Services will assure that operating expenses are minimized through improving supply discipline by such actions as:

- Eliminating improper use of high priority requisitions.
- Ordering minimum essential quantities of materiel.
- Accurately and promptly recording and reporting all inventory transactions.

Micromation in Publications. Military Services and Defense Agencies will actively seek means to reduce expenditures and simplify and facilitate the preparation and dissemination of selected publications by exploiting micromation and automation techniques.

Reporting Requirements. Military Services and Defense Agencies will develop and operate logistics management systems which will minimize reporting requirements, eliminate duplicative reporting, and progressively establish integrated management information systems.

Supply Systems Standardization. Individual Military Service supply systems must be tailored to provide responsive support to the operating forces, however, such systems must rely on integrated data banks, *e.g.*, Defense Logistics Service Center, to the maximum extent practicable for commonly used supply management data and information. Major supply systems design efforts will be reviewed at the appropriate management levels to assure consistency of approach and compatibility and to facilitate inter-Service communications.

Logistics Research. Logistics systems research efforts will be reviewed centrally by the Military Departments, Defense Agencies and the Office of the Secretary of Defense, as appropriate, to determine that the subject has not been previously studied and is not currently under study, before new research is conducted.

Systems Improvements Validation. Improvements to on-going logistics systems and development of new systems will be validated by the separate Military Services and Defense Agencies as being consistent with the policy objectives contained herein.

Credit Financing of Military Export Sales

Frank J. Fede

For the first time in almost a year, the Defense Department has both authority and funds to credit finance military export sales, either on a direct basis or by guarantying private credit. This credit could amount to $200 million if only direct foreign military sales credits are used, or could range as high as $340 million if private credit resources are available and used.

This means that private banking and industry sources can be used, when possible and feasible, in line with U.S. Government policy, and as agreeable to our allies and friends. A word of caution! Use of private credit for U.S. foreign military sales does *not* mean that DOD is trying to promote or stimulate a proliferation of U.S. arms sales throughout the world. It is *not* a signal of change in government policy regarding military export sales. It is *not* an attempt to interfere with normal U.S. private business and finance.

Military credit sales in the current fiscal year (FY 1971) may be funded from one of three government sources:

- Export-Import Bank credits or guarantees to developed countries which must qualify under the interest equalization tax definition, as well as the Export-Import Bank's own criteria for credit worthiness. This source could involve up to $300 million in FY 1971.
- Special congressional authority for Israel which provides $500 million by special amendment to the Defense Procurement Act and funding under the FY 1971 Supplement Act. Special terms and conditions may be considered for a large portion of such credit due to the congressional action and exigencies of the situation. This source is an unusual credit authorization, unique in our credit sales history.
- DOD foreign military sales funding, a "last resort" source, which is normally reserved for economically less developed countries, although the law is not restrictive in that respect. This credit source is available only when Export-Import Bank, private, or other sources are not available.

In summary, government credit consists of $300 million for developed countries by the Export-Import Bank, $500 million for Israel, and from $200 to $340 million for economically less developed countries—a total estimated credit of over $1 billion.

Figure 1 shows the relationship of this potential $1 billion credit to the total U.S. Security Assistance Program for FY 1971. The dollar amounts represent an order of magnitude since some of the data are still in the formative stages. Credit sales amount to about 17 percent of the total Security Assistance Program and over 50 percent of total military export sales. Credit is therefore a significant portion of U.S. security assistance in the 1970s.

The Nixon Doctrine

In his first annual report to the Congress on foreign policy on Feb. 18, 1970, President Nixon described these three basic principles of our foreign policy for building a lasting peace:

- Peace requires partnership.
- Peace requires strength.
- Peace requires willingness to negotiate.

With these principles, the President expressed three basic points that dealt with military and economic assistance. He said:

(Point 1.) "The United States will keep all its treaty commitments."

(Point 2.) "We shall provide a shield if a nuclear power threatens the freedom of a nation allied with us, or of a nation whose survival we consider vital to our security and the security of the region as a whole." This confirmed that the United States will continue its vital role in nuclear defense, and allayed any fears of allies or friendly nations that they must shoulder this major responsibility and cost. They are, thus, free to concentrate on conventional defensive strength.

(Point 3.) "In cases involving other types of aggression we shall furnish military and economic assistance

Total U. S. Security Assistance Program

FY 1971

Military Service-Funded Military Assistance (such as Southeast Asia)	$2.2 billion
Military Assistance Program—Grant Military Aid	775 million
Support Assistance—Administered by Agency for International Development (Examples are supporting military budgets and public safety)	605 million
Related Programs (Examples are DOD excesses under the Military Assistance Program at legal value, NATO Infrastructure, and International Military Headquarters)	207 million
Military Credit Sales (Export Import Bank, Foreign Military Sales, and Special for Israel)	1 billion
Cash Sales (Foreign Military Sales and Commercial)	900 million
Total Security Assistance Program	$5.7 billion

Figure 1.

Statistics on the "Twin Instruments" of U. S. Foreign Policy

(Millions of Dollars)

	FY 64	FY 65	FY 66	FY 67	FY 68	FY 69	FY 70	TOTAL
MAP	1,010	1,039	1,051	774	655	560	513	5,602
FMS	1,098	1,344	1,972	1,365	1,370	1,969	1,371	10,489
TOTAL	2,108	2,383	3,023	2,139	2,025	2,529	1,884	16,091
% MAP	48	44	35	36	32	22	27	35
% SALES	52	56	65	64	68	78	73	65

Figure 2.

when requested and as appropriate. But we shall look to the nation directly threatened to assume the primary responsibility of providing the manpower for its defense." Thus the President directly related his doctrine to the Security Assistance Program. Under the Nixon Doctrine, we must on the one hand help our allies with grant aid (military and economic assistance), whereas on the other hand we must help them develop a sense of self-sufficiency, self-help, and independence so that these nations can defend themselves. The military credit sales program, as well as cash sales, relate to the second aspect of the "twin instruments" of foreign policy.

Security Assistance Statistics

Figure 2 shows the trends of the Military Assistance Program and Military Export Sales since FY 1964. Military Assistance Program grants (excluding Southeast Asia military assistance) steadily declined from $1 billion in FY 1964 to $513 million by FY 1970—a 50-percent decline in six years. Conversely, Military Export Sales escalated just as rapidly—from a similar $1 billion level to almost $2 billion in FY 1966. Sales are characterized by "ups and downs," reflecting the instability of foreign sales. The fluctuations show how much sales depend upon specific weapon systems, and specific country needs. They also reflect the procurement cycle for weapon systems.

In FY 1971, we estimate that both sales and Military Assistance Program grants will recover much of the loss of FY 1970 due to the supplemental legislation approved by Congress. The total Military Assistance Program and Foreign Military Sales for FY 1971 is estimated at about $2.7 billion.

As shown in Figure 2, on a percentage basis the Military Assistance Program dropped from 48 percent in FY 1964 to 22 percent in FY 1969. In FY 1971, the Military Assistance Program rises to about 31 percent of the total. Sales, conversely, rose from 52 percent in FY 1964 to 78 percent in 1969. In FY 1971, sales are expected to comprise about 69 percent of the Military Assistance Program and Foreign Military Sales total. Thus we see a shifting of the Military Assistance Program (grant aid) and sales—the twin instruments of our foreign policy—as nations become more self-sufficient.

Figure 3 compares credit sales with other parts of military export sales. As sales expanded, so did credit. The past two years saw a decline to about 26 percent, but in FY 1971 credit sales are once again estimated to rise to about 53 percent of total sales.

Statistics show that commercial sales rose significantly from 9 percent in 1966 to 32 percent in FY 1970. This reflects the shifting emphasis to private commercial business which is in line with current government policy. Finally, as indicated in Figure 3, cash sales are absolutely unpredictable. Cash sales depend upon so many factors, internal and external. Note the low figures for FY 1967 and 1968, 20 percent and 18 percent, respectively, compared with the peak figure of 80 percent in FY 1965. Conversely, credit sales were largest in 1967 and 1968, due mainly to the Export-Import Bank's credit to developed countries at the time.

Military Export Sales by Funding

(Millions of Dollars)

	FY 64	FY 65	FY 66	FY 67	FY 68	FY 69	FY 70	TOTAL
CASH	780	1,080	1,255	272	246	1,213	577	5,423
COMM'L	208	153	188	237	257	250	438	1,731
CREDIT	110	111	529	856	867	506	356	3,335
TOTAL	1,098	1,344	1,972	1,365	1,370	1,969	1,371	10,489
% CASH	71	80	64	20	18	61	42	52
% COMM'L	19	12	9	17	19	13	32	16
% CREDIT	10	8	27	63	63	26	26	32

Figure 3.

Credit Sales by Source

The Export-Import Bank first began handling military export sales in FY 1963. It extended $161 million that year, mostly to Italy. Up to that time, Italy was receiving grant assistance from the United States. The policy to help Italy transition from grant aid to credit sales is quite similar to the Nixon Doctrine policy of helping less economically developed allies transition from grants to credit sales. The high point in the Export-Import Bank's credit to developed countries occurred in FY 1968 when $604 million was extended to the United Kingdom, Italy, Australia and New Zealand.

The Export-Import Bank's credit to less developed countries existed only for three years—FY 1966 to 1968. Credits for FY 1964 and 1965 were retroactive transactions where the Export-Import Bank purchased "evidences of indebtedness" from DOD. All Export-Import Bank credits to less developed countries were "guaranteed" by DOD. The Defense Department's "revolving fund," which guaranteed Export-Import Bank credit to less developed countries, was abolished by the Foreign Military Sales Act of 1968. The Act also prohibits DOD from guarantying other government entities, such as the Export-Import Bank.

Moving down to Foreign Military Sales direct credit, Figure 4 shows the peak figure of $226 million in FY 1969. This credit is not as far out of line with the previous year's experience as might seem evident from the statistics. In that year, total credit sales had to be financed from appropriated funds and repayments could not be reused, as under the revolving fund. All repayments since FY 1968 revert to the U.S. Treasury, and new funds must be appropriated each year. Thus the $226 million figure reflects total credit sales, and not just new funds used as during the previous years.

The low figure of $70 million in FY 1970 was due to the delay in passage of the Foreign Military Sales Act in 1970. In FY 1971, assuming a possible $100 million in private credit guaranteed by DOD, $25 million for guaranty reserve would be required. The balance of $175 million could then be used for direct credit sales. Total sales under this assumption would amount to $275 million.

The final segment of our estimated credit capability is the Foreign Military Sales guaranty of private credit. The first guaranty to private sources was extended in FY 1965, covering credit sale by three private banks. Each provided $12 million of credit, and the combined $36 million in disbursements covered $49 million of total credit sales. The difference, or reduced "outstanding exposure," was caused by progress payments being made by the foreign country while long lead time items were under production.

In all, there were eight private credit transactions guaranteed by DOD during the period FY 1965 to 1969. Both banks and companies were involved in these transactions. Countries financed were in all parts of the world. Of the total $150 million financed, the bulk (about $100 million) was provided by banks. In FY 1968, $43 million credit occurred at the U.S. suppliers' initiative. Foreign governments signed contracts with U.S. companies and then, in turn, signed a guaranty agreement with DOD. The contracts of the private companies were attached as part of the guaranty agreements.

During FY 1969, there were three credit transactions guaranteed by DOD. Two transactions were handled by banks, and these generally followed the pattern established in FY 1965. Foreign governments specified which private U.S. banks they preferred to deal with. The two bank transactions had one feature that differed from the FY 1965 transaction. Both contained mixed, government/private bank financing, which meant that maturities for the private portion could be in the earlier time frame, and interest rates to the buyer could be a composite that was less than prime, but more than cost of money to the U.S. Government. Future private credit transactions with DOD guarantees could very well follow this latter method, or possible variations, provided that the Treas-

Military Export Credit Sales by Source

(Millions of Dollars)

	FY 64	FY 65	FY 66	FY 67	FY 68	FY 69	FY 70	TOTAL	EST 71
EXIM BANK									
Developed Countries	35	—	213	533	604	225	286	1,896	300
Less Developed Countries.	23	43	235	245	132	—	—	678	—
FMS									
Direct	52	19	80	76	88	226	70	611	175
Guaranty to Private Sources.	—	49	1	2	43	55	—	150	100
SPECIAL									
Israel	—	—	—	—	—	—	—	—	500
TOTAL	110	111	529	856	867	506	356	3,335	1,000+
% Private Credit Guaranteed by DOD.	—	44	—	—	5	11	—	5	10

Figure 4.

ury Department approves such terms and conditions.

FY 1971 Time Table

All FY 1971 transactions must be concluded by June 30, 1971, since Foreign Military Sales funds are "one-year" funds and expire after that date.

The first phase in this program will be *defining of requirements.* This process is currently underway. Specific country requirements, as well as requests, must be received as soon as possible in order to formulate the total credit mix. In other words, since direct credit requires 100 percent of funding, whereas guaranteed credit requires only 25 percent of DOD funds, the extent of private financing will influence the total size of all credit to be extended in FY 1971.

Phase two involves the *approval* of credit cases. As soon as "indications" are received, particularly foreign government requests to the U.S. Government, DOD will prepare specific credit justifications. This will contain political, economic and military justifications for the credit. DOD will submit these requests to the State and Treasury Departments for approval. Finally, the Office of Management and Budget will apportion funds after interagency approvals.

The third and final phase will be *conclusion of arrangements*—both direct government-to-government and private credit guaranties. In past years, because of the difficulties in obtaining adequate justifications and funds for credit sales, most of the credit transactions were concluded during the last few weeks of the fiscal year. Obviously, this procedure was not the most desirable. In FY 1971, we expect to begin concluding transactions as soon as possible after approval by the Departments of State and Treasury. Because there was a backlog of requirements during FY 1970, FY 1971 credit cases can be expected to be concluded without too much delay.

Procedure

There are four main steps in concluding private credit guaranty arrangements with the Defense Department.

First, banks and suppliers should notify DOD of their "indications" for private credit participation to the extent possible. Specific data should be provided so that the U.S. Government can evaluate the prospects in terms of total requirements, priorities, and other considerations. Funds must be earmarked at the earliest time.

When the private transaction is near consummation, an official request must be submitted by the financial institution, including approval of the foreign government. Terms and conditions, amount of credit, items, and status of negotiations should be indicated, as well as any other justification or need for the credit.

DOD will then submit an official request to the State and Treasury Departments for approval of the transaction and terms and conditions in line with the President's "Financial Standards and Criteria," established by the Foreign Military Sales Act of 1968 (Section 34). Upon approval, DOD will draw up a Guaranty Agreement, which is signed by DOD and the private financial institution. A copy of the supplier contract or loan agreement is attached to the Guaranty Agreeement.

One feature of the Financial Standards and Criteria, established by the 1968 Act, that will be reemphasized in FY 1971 is the policy of encouraging *private credit financing* to the greatest extent possible. DOD will be seeking to minimize U.S. Government credit expenditures and to substitute private credit, where available and at viable terms, to accomplish Nixon Doctrine objectives.

Private Credit Important

Reasons why private credit financing is so important are numerous.

- Our private enterprise system should be encouraged. In a free society, such as ours, it is essential that we constantly remember to exercise the private sector as much as possible.
- U.S. Government expenditures should be reduced to the extent possible. With large deficits anticipated for the current and future year, this factor grows increasingly important.
- Current policy of the U.S. Congress and the Administration encourages private sector participation by actual practice.
- Finally, private credit encourages self-sufficiency, a prime objective of the Nixon doctrine. Not to be minimized is the fact that the budgetary process of the developing country would be fully engaged. Private credit definitely involves the foreign country's finance ministry as well as the ministry of defense.

In summary, the Defense Department is seeking private participation in its Military Export Sales Program for FY 1971, and the next year, to the maximum extent feasible. In FY 1971, Congress authorized $340 million of total credit sales, to be made only if required in our national interest, but funded only $200 million. Thus the Congress provided for possible credit of over $100 million to be financed by the private sector with Defense Department guaranty.

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Physical Security, Emergency Preparedness Protect Industrial Facilities

John C. Adsit

When E. I. du Pont founded the Du Pont Company in 1802, he erected his first powder mill on the Brandywine River, near Wilmington, Del. This mill had two unusual design features: The powder buildings were constructed of heavy masonry on three sides. The fourth side and slanted roof were built of light timber so that, if an explosion should occur, its force would largely be directed toward the stream, away from other buildings and personnel. Also, rather than being in one large building, the mill comprised many small buildings, spaced well apart.

Du Pont had been trained in the French government powder works at Essone. From the outset of his American operation, he actively taught safe working practices and developed safer manufacturing methods. Despite all his precautions, a blast occurred in 1813, killing 36 employees. The company was prepared, and provided immediate medical care for the injured, pensioned the widowed and the maimed, and arranged for the care and education of any children left parentless.

This early model of industrial relations serves also as an early example of emergency preparedness, an integral part of modern industrial defense. Today, in an era marked by nuclear threat from abroad, sophisticated methods of sabotage and espionage as major weapons of warfare, by civil disturbances, bomb threats and natural disasters, the Defense Department maintains a vital interest in assisting American industry to maintain an overall defense posture in the spirit of that established by du Pont. This is accomplished in large measure by the DOD Industrial Defense Program.

In operation, the program consists of industrial defense surveys of certain facilities, including critical points in the production processes and measures currently in effect to protect and insure production continuity. Management is then encouraged to develop an industrial defense posture, especially suited to the particular facility by using recommendations from the survey, and other advice and guidance offered by survey personnel.

Programs Distinguished

Due to similarity of titles, the Industrial Defense Program is frequently confused with other better known, but largely unassociated operationally, DOD programs.

The highly publicized Civil Defense Program concerns the entire American public, and its success depends to a large degree upon favorable public sentiment.

The Industrial Security Program is that portion of internal security which is concerned with protection of classified defense information in the hands of U.S. industry. The Director, Defense Supply Agency (DSA), administers the program for DOD through the DSA Office of Industrial Security.

The Industrial Defense Program, on the other hand, is defined as, "The protection of industrial facilities from sabotage and other hostile or destructive acts through the application of physical security measures and emergency preparedness measures."

Our definition of industrial defense calls for a further explanation of terms:

- An industrial facility, for the purpose of this program, includes any physical plant or structure used for manufacturing, producing, processing, assembling, storing or distributing goods or materials; or any physical plant used by a utility or service industry for furnishing communica-

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tions, electric power, transportation, and water supply.

- Physical security measures include civilian guard forces, perimeter barriers, protective lighting, intrusion alarms, employee identification, visitor control, package control, and other similar measures to prevent unauthorized entry or, conversely, to control authorized entry.
- Emergency preparedness measures include personnel shelters, continuity of management under a variety of emergency conditions, fire prevention, emergency repair of plant and equipment, records protection, and other similar plans and measures to minimize the effects of enemy attack, civil disturbances, or natural disaster on the operating capability of industrial facilities.

Policy

It is the policy of the Defense Department to develop and promote industrial defense, to encourage industry to protect its facilities, and to provide industrial management with advice and guidance concerning application of physical security and emergency preparedness measures. However, protection of property is an inherent responsibility of ownership. Accordingly, Defense Department does not assume primary responsibility for the physical security of privately-owned facilities, federally-owned facilities under the control of other Federal departments and agencies, or facilities owned by any state or political subdivision.

Thus we arrive at two additional important distinctions between the Industrial Security Program and the Industrial Defense Program: The Industrial Security Program is obligatory for all U.S. contractors requiring access to classified information, whereas the Industrial Defense Program is advisory and permissive in nature, and is dependent upon the voluntary cooperation of management for success. Also, the majority of facilities included in the Industrial Defense Program do not have government contracts, classified or unclassified. Those few that do have classified contracts are included concurrently in the Industrial Security Program.

In the administration of the Industrial Defense Program, emphasis is given to safeguarding industrial facilities important to national defense. These encompass:

- Facilities engaged in important military projects.
- Facilities producing important weapon systems, subassemblies, and other components.
- Facilities producing essential common components, intermediates, basic materials, and raw materials.
- Important utility and service facilities.
- Research laboratories whose contributions are significant to the security of the United States.

Of course, all five of these categories relate directly to our military capability.

The Industrial Defense Program is highly selective in its application. Only those facilities whose continued existence and viability are essential to national defense are included in the program. The criteria for determining whether or not a facility will be included is the *nature* or *volume* of a particular product or service. The mission of Industrial Defense program is to assure their continued operation in the face of any foreseeable emergency.

Authority and Responsibilities

The uncertainties of our time demand that we maintain an industrial base capable of providing those items and services essential to defense programs and mobilization concepts. The Congress and successive Administrations have long been aware of this. They have provided legislation and executive authority to assure continuity of industrial output.

The principal legislative authority for the current Industrial Defense Program is Title I (Subversive Activities Control) of the Internal Security Act of 1950 amended. This Act authorizes the Secretary of Defense to apply its protective measures to a broad range of "defense facilities" which he has determined are necessary to the security of the United States.

Additional authority for the program is contained in Presidential Executive Order 10421, "Providing for the Physical Security of Facilities Important to the National Defense" Jan. 3, 1953. This executive order directs Federal agencies to develop and execute programs and measures for the physical security of facilities under their cognizance which are essential to the production and security of the United States.

The program is supervised by the Deputy Assistant Secretary of Defense for Security Policy, in the Office of the Assistant Secretary of Defense (Administration). That office is concerned with eight broad security programs, one of which, the Industrial Program, includes Industrial Defense as well as Industrial Security. Since 1965, the Secretary of the Army has been the executive agent for DOD in implementing the program. His authority is contained in DOD Directive 5160.54, "Department of Defense Industrial Defense Program." The Secretary of the Army discharges his responsibility through the Deputy Chief of Staff for Logistics (DCSLOG) and The Provost Marshal General.

DCSLOG is assigned general staff responsibility, which includes developing broad policy guidance on industrial defense activities and selecting facilities for inclusion in the program. Selected facilities are included on the Defense Department Key Facilities List.

The Provost Marshal General of the Army is responsible for monitoring and coordinating industrial defense surveys of all facilities included in the program. These surveys are conducted annually; and are designed to assess the facility's vulnerability to sabotage and other hostile or destructive acts, including civil disturbances. Further, the Office of the Provost Marshal General develops technical guidance materials designed to assist management in effecting countermeasures to prevent or minimize damage from such acts.

The Commanding Generals of the Army Materiel Command, U.S. Armies Alaska and Hawaii, and the Chief of Engineers share responsibility for carrying out the program with the Commanding General, Continental Army Command.

Carrying Out the Program

Since by far the greatest number of industrial defense surveys are conducted under the direction of the Commanding General, U.S. Continental Army Command (CONARC), it is useful to focus our attention there. The Provost Marshal, CONARC, represents the Commanding General in directing surveys of privately-owned and privately-operated facilities, government-owned and contractor-operated facilities under the cognizance of the Navy and Air Force, and industrial facilities which are owned and operated by other Federal agencies, state and municipal governments within the continental United States (CONUS).

The five CONUS armies are assigned responsibility to actually conduct on-site surveys of key facilities located within their respective geographic areas. These headquarters are:

- First U.S. Army, Fort George G. Meade, Md.
- Third U.S. Army, Fort McPherson, Ga.
- Fourth U.S. Army, Fort Sam Houston, Tex.
- Fifth U.S. Army, Fort Sheridan, Ill.
- Sixth U.S. Army, Presidio of San Francisco, Calif.

Surveys are conducted by military or civilian survey officers assigned to the Army Provost Marshal offices. Surveys encompass in depth three main subjects:

- Plant security: organization plans, guard forces, perimeter barriers, control of entry, protection of critical areas, and personnel security.
- Fire protection.
- Emergency preparedness: emergency preparedness plans, training, warning system, communications, auxiliary power, shut-down procedures, medical program, shelters, radiological monitors, restoration plans, alternates for key personnel, emergency operating center, duplication of vital records, and spare parts stocks.

Following a survey, recommendations are made for measures necessary to overcome any inadequacies which were found. These recommendations are specific, practical, and reasonable.

The work of the survey officer is not finished when the results of his annual survey have been sent to management. The survey officer, the Provost Marshal of CONARC, and the Provost Marshal General spend considerable effort in encouraging managements to effect innovations which enhance the security posture of facilities under their control. As a result, many companies included in the program are highly progressive in the fields of physical security and disaster preparedness. They have taken exemplary measures to protect their facilities.

One vehicle for assisting management is a tuition-free, five-day course, "Industrial Defense and Disaster Planning for Privately Owned and Privately Operated Facilities," offered four times during each fiscal year at the Army Military Police School, Fort Gordon, Ga. The course is designed primarily for executive personnel from industry and from government agencies, with priority given to management of those facilities participating in the DOD Industrial Defense Program. The purpose of the course is to provide executive personnel with a working knowledge of current planning measures to safeguard their facilities from hostile or destructive acts, and from natural and man-made disasters. Corporate management is continually encouraged to attend the course.

As previously stated, the Industrial Defense Program is permissive in its application in the private sector of industry. Thus DOD-recommended improvements are made ultimately at the discretion of management and at company expense. The Government can assist in many ways, but the job is largely one that industry alone can do.

Survey officers, as primary points of contact within DOD, stand ready at all times to render advice and assistance to management. They are recognized experts in their fields with many years of experience to their credit. They have highly valuable expertise in many areas of physical security and working knowledge of a broad range of industrial operations. They make every effort to keep themselves abreast of new techniques in crime prevention and disaster preparedness, latest equipment and devices available on the market, and on new government and private programs designed to assist management to improve its security posture. Thus, their recommendations are frequently accepted and implemented.

Program Effectiveness

There is no profit statement available to indicate the effectiveness of the Industrial Defense Program. An evaluation can be only subjective, equal to asking how many crimes are prevented each year by the existence of a police department or how many wars are prevented by the existence of effective defense establishment. We can only cite a few examples of enhanced security posture attained as a result of Industrial Defense survey officer recommendations.

Contract Guards. One plant had employed contract security guards. During an emergency period, in which the plant was not affected, management questioned the supervisor of the contract guard firm about the availability of additional guards. The supervisor stated that because of the sudden emergency he had been unable to obtain additional guard personnel from other firms, and that his firm was unable to recruit "off the street". To handle similar situations, management established an auxiliary force of designated and trained plant employees to perform certain security duties pending the arrival of additional professional guards.

Fire Prevention. Another industrial plant had portable fire extinguishers attached to steel structure supporting columns. The columns were wider than the fire extinguishers, thus the extinguishers could not be observed by anyone standing on the opposite side. The plant manager assembled facility personnel in the proximity of a supporting column to which an extinguisher was affixed. He simulated a fire, then designated three persons to obtain fire extinguishers as rapidly as possible and waited their return. All employees returned with extinguishers obtained from work areas with which each employee was familiar. The employees' unfamiliarity with the location of extinguishers on the columns resulted in loss of considerable time. As a result, each column to which an extinguisher was attached, was painted with a wide band of red paint at a height above normal installed machinery. Personnel unfamiliar with a particular area are now able to detect locations of fire extinguishers by looking for columns with red bands.

Emergency Lighting. A large ore smelting plant experienced a major explosion and fire during the second shift (nighttime). The buildings were equipped with "evacuation type" emergency lighting, and full support was received by the municipal fire department and rescue personnel. However, rescue operations and recovery of bodies were handicapped by lack of adequate emergency lights. A need for portable emergency lighting equipment which operates independently from installed power sources was demonstrated.

Intrusion Detection. An unattended electrical sub-station had on more than one occasion been the object of unlawful entry. These break-ins resulted in the loss of a great deal of copper wire. To counter these intrusions, management installed protective lighting inside the perimeter fence. An intrusion alarm system was woven in the perimeter fence and connected to the company control system. If an intrusion should occur, an alarm signals the operator. The operator notifies the local law enforcement agency, which dispatches a patrol car to the sub-station. No further losses have been incurred at this sub-station since these measures were taken.

Current Developments

An effort such as the Industrial Defense Program must be progressive to survive and to continue to be of assistance to those it is designed to help. In 1962, Herman Kahn's controversial book, "Thinking About the Unthinkable," was published. That book highlighted the fact that potential exists in the world to annihilate 100 million or more Americans by means of an all-out thermonuclear attack on this country. Since the avowed purpose of the Industrial Defense Program is to ensure continued essential production, those engaged in the program literally think about the unthinkable.

Times do change, however, and we recognize that managements are not so much interested in protection against this ultimate disaster as with the some 12,000 disasters, major and minor, which occur across the country each year and pose a day-to-day threat to their existence. That figure does not include the latest threats to American industry—bombings and civil disturbances. Statistics on these occurrences mount so rapidly that a repetition of them here would be obsolete before publication of this article. Suffice it to say that the threat of temporary or permanent disruption of production or services through bombings, bomb threats, and civil disturbances has become a way of life within large segments of our industrial sector.

The Industrial Defense Program is now giving major emphasis to defense against such threats. Survey officers are assisting industry by placing emphasis on physical security measures designed to minimize damage, and on known and recommended procedures to be followed in the event of a bomb threat or civil disturbances. Though many such procedures are new and many are untested, survey officers continually keep abreast of developments in this area of industrial defense, and are able to provide management with the most authoritative advice available today.

Most recently, CONARC sponsored a demonstration of various manufactured and improvised demolitions and incendiaries for representatives of companies included in the Industrial Defense Program and for key government personnel. Its purpose was to graphically portray lucrative targets, potential threats, and to point out possible preventive and defensive measures which could be employed. The demonstration was conducted at Fort Bragg, N.C., by the Army's John F. Kennedy Center for Military Assistance, to an audience of approximately 120 industry representatives. Reception to the demonstration was so enthusiastic that plans are underway to incorporate this type of instruction into a more formal and continuing program.

The Industrial Defense Program is not a simple or a quick solution to a difficult and complex problem. It is a realistic, businesslike approach to the many problems of industrial dispersion, plant protection, and providing alternate sources of supply, continuity of personnel and production, damage control, emergency planning, and many other things. The vastness of the scope of these problems requires that a number of Federal agencies cooperate and pool their resources on industry's behalf. The Industrial Defense Program is a focal point for the efforts of Government to assist management toward solutions to these problems.

A Logistics Challenge: Reduce Distribution Costs

Lieutenant General Earl C. Hedlund, USAF

In military logistics support, the cost of distribution is a major element. Factors contributing to this cost element are packing and packaging, material handling, warehousing, documentation and control, and transportation. As in industry, progress has been made in improving distribution processing and techniques but not to the extent that should be feasible with the technical capabilities of industry and the military.

Each time the nation has been involved in a national emergency, demands on the logistics distribution system have exceeded capabilities. Packaging and packing specifications have been inadequate to meet the requirements. Material handling and warehousing capabilities have fallen short of demands. Documentation and control have followed conventional systems without substantial change. Transportation requirements have exceeded capabilities.

The challenges ahead are many. Major changes leading to standardization of packing and packaging techniques can be accomplished which will save dollars. Material handling, warehousing, and documentation can be more fully automated under data processing control, which will save dollars. Movement of material by rail, air, and water can be streamlined through the employment of containerization, high-speed, large-volume aircraft. Transportation in the 1970s calls for a technological revolution in upgrading shipping and handling capabilities.

History has a habit of repeating itself.

With the advent of the buildup of our forces in Vietnam in 1965, we soon found that vast quantities of inadequately packed and packaged supplies were arriving in our west coast ports in a condition which could not possibly withstand the multiple and the rough handlings which they would receive prior to delivery to our combat forces. Nor were they in any condition to withstand the prolonged exposure to the severe environment which they would encounter during open storage in Vietnam where heat, high humidity, heavy monsoon rains, and mud take their toll.

It seemed at times that we had made pathetically little progress in improving packing and packaging so far as combat needs were concerned since the days of World War II and the Korean War. This situation resulted from the natural peacetime tendency to orient levels of protection to less costly types of pack (domestic or reduced military standards, for example), rather than divert scarce peacetime funds to the more costly combat packaging of contingency stocks. It resulted in substantial losses of valuable cargo, time, and dollars.

Industry practices are generally adequate for military shipments in the continental United States and overseas when we have the normal peacetime facilities to receive, handle, and store them. In a wartime environment, particularly in an area like Southeast Asia, these practices simply will not suffice. A shipment destined for Vietnam may be handled more than 40 times before it reaches the soldier at the end of the line. It also may remain in the open for many weeks before a package is eventually opened and its contents used for their intended purpose. Since industry does not face these problems in the commercial world, it has been reluctant to fully address them from a research and development standpoint in the absence of demonstrated need and tangible incentives. Economic considerations have understandably been paramount in the eyes of business.

The military reacted in a number of ways to cope with this situation as best it could. Supplies were diverted into depots and contractor-operated facilities for repackaging and further over packing. Lumber was used in enormous quantities at great expense simply because there was no adequate substitute for it. A major effort was exerted to improve packing and packaging specifications and to get them into the hands of industry as soon as possible. The transition on the part of industry from domestic to combat pack took many months. Industry's response trailed far behind requirements.

Unquestionably, in recent years, many advances have been made in packing and packaging. While tailored in the main to the needs of the domestic market, a number of these advances have military application and show much promise for the fu-

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ture. The potentials of such materials as styrofoam, styrene, polyethylene, and the like, have not yet been fully exploited. Compressed air as a cushioning medium is a possibility to be considered.

We must also make progress in marking. The ability to mechanize the marking of shipments by marrying the computer with high-speed photographic processes may be just around the corner. In the Defense Supply Agency, we have a test underway at our Ogden Defense Depot and are highly optimistic that it will prove to be successful.

The challenge of the future is one of developing better, stronger, and more weather-resistant packing and packaging materials and techniques, hopefully at reduced costs and with savings in weight and cube. Such materials must withstand multiple handlings, rough handlings, and prolonged exposure to the environment when used under conditions where such needs arise. We must have the capability on hand to make the rapid transition from peacetime to wartime levels of protection for military material.

We must be in a position to optimize the use of containerization which in a way is the ubiquitous twin of packing and packaging. The two should be viewed as an entity as we strive to minimize damage, reduce the possibility of pilferage, and move toward the development of a completely integrated, intermodal container system. Standardization of packing and packaging techniques will save dollars in both military and civilian distribution systems.

Documentation

We also relived some old problems with cargo documentation during Vietnam. The problems of missing, incomplete and inaccurate documentation continued—intensified by the sheer volume of shipments and backlogs at destinations. Even the pre-Vietnam documentation improvements left shortcomings. Considerable difficulty was experienced in attempting to marry supply and movement documentation. We fell short in regard to intransit cargo visibility, which handicapped intransit material accounting and the ability to make intransit tracings and diversions. Documentation failure hampered and, indeed in many cases, prevented movement of material into asset records and controls.

Incomplete and unclear material description was another significant "bugaboo". Many commodity descriptions or documents were too brief to allow identification of material. In fact, numerous shippers used the term GENNOS—general cargo, not otherwise specified. This made identification a matter of considerable research under circumstances where such research was hard to come by.

When examining documentation problems, we must acknowledge that the sheer volume of paperwork at all levels of the distribution system was often overwhelming.

How do we attack these problems? It seems generally that today's technological improvements in production, inventory control, and movement of goods appear to have outstripped our ability to devise simpler and less costly means of documenting the movement. We need a better system of documentation with the objective of not only unsnarling the presently fragmented, overly documented, and overly complex system, but also paving the way for long overdue simplification and reduction of all of the paperwork involved in the transportation businsss.

I believe the first prerequisite comes through loud and clear in the reports by the Joint Logistics Review Board which studied the logistics lessons learned in Vietnam. Its conclusion was that no future military operations should be undertaken without a fully operational data processing system in the overseas area, compatible in all respects with data processing systems in the United States.

We need a method of providing container manifests to consignees via electronic means considerably in advance of container arrival, with the common reference number being the container serial number. The use of latest state-of-the-art features in container documentation is mandatory, using cards keyed to detailed listings and sensing devices to permit selective hard copy printouts only where needed. These capabilities must respond throughout the distribution system to real-time needs to trace and divert intransit material. Obviously, all advancements must function to provide descriptive and trustworthy documentation at all levels with minimum reliance on the passing of hard copy from point to point.

I believe we must look to the day, hopefully not too far away, when we can give the carriers a punched card as a bill of lading and let it go through the complete cycle of moving, documenting and paying for the shipment. The closer we can come to a single document serving multipurposes through automated processing, the more headway we should make toward reducing the ever present problem in documentation.

Transportation—A Partnership

Transportation is an essential element of national strength in peace and war. It is largely in this role that the transportation industry and the military find themselves as partners.

The transportation service industry is large. It employs more than 2.5 million people. When we consider those employed in the supplies and manufacturing elements of the transportation business, this figure reaches 10 million. The industry uses three-fourths of the nation's output of rubber, one-half of the lead and petroleum, and one-fourth of the steel and aluminum, and pays to the U.S. Treasury 19 percent of all taxes collected.

The Vietnam War found our Military Sea Lift Command (MSC) with an insufficient number of ships, many of which were of World War II vintage. During the buildup period, MSC did not have sufficient capability to meet the inter-theater requirements for the movement of helicopters, light aircraft, lighterage, and other outsize cargo. Additionally, sufficient shallow-draft ships were not available for the increased intracoastal requirements. Our shipping requirements were met by utilizing the capabilities of U.S. shipping lines, by activating ships from the National Defense Reserve Fleet, and by chartering foreign merchant shipping.

The Military Airlift Command (MAC) was at times overburdened during the buildup period and had to divert significant amounts of cargo to surface transportation. With the addition of the C–141 and other long-range jets from the airlines, MAC's fleet was soon modernized.

Sealift moved about 95 percent of the dry cargo—carrying the major burden of moving materiel. Airlift accounted for moving about 2 million personnel through 1969, and became the normal method of movement for critical items, aircraft and helicopter engines, and high-value reparables.

During the early years of the Vietnam War, the average order and ship time for "run of the mill" things moving by ship to Vietnam was about 105 days. Average time for the Army's Redball Airlift Express, one of the most highly controlled and effective systems ever developed to keep major weapon systems and other equipments off deadline, was 15 days. Both of these time frames are much too long for any war of the future against a sophisticated enemy. Regrettably, not enough progress has been made in improving the speed of transport ships at sea since the days of World War II.

Challenge of Future

Those in transportation and related fields will have much to look forward to in the 1970s. Lessons learned in Vietnam, coupled with the increased use of containers and the jumbo jets, have set the stage for giant strides in the transportation area. Forward thinking and the proper application of our past experiences should contribute much toward a more efficient and less costly transportation system, for both the defense and commercial sectors of our economy. When this is done, I feel confident that savings will accrue from the reduction in shipping and port handling costs, as well as from losses due to damage and pilferage. Systems designers should consider the use of containers to carry supplies and certain equipment that moves out with deploying units. Such a container system could contain stocks already inventoried and prebinned. It could be used in the theater to provide temporary storage and issue points as well as maintenance, communications, and automatic data processing. In addition, the containers can be used to return reparables and retro-grade cargo.,

The trend in the future is not only pointing toward an increased use of containers, but also toward the gradual replacement of break bulk ships with larger and faster ships especially designed to carry containers. During the decade of the 1970s, these special containerized ships will constitute our principal resource for surface shipments in support of military logistics operations. Most of these new ships, however, will be non-self sustaining, and will depend upon modern terminals for loading and unloading.

While this modernization of our merchant fleet is sorely needed and most gratifying, such modernization dictates simultaneous development of deployable terminal facilities for use in underdeveloped areas. Our transportation capability contributed significantly to the success of U.S. combat operations, but that capability was severely strained by the lack of adequate terminal ports, unloading, warehousing, and storage facilities so common to an underdeveloped area. When these conditions were coupled with sudden surges in requirements for the movement of men and material, the impact upon both surface and air transportation systems was tremendous.

Since turnaround time of oncoming container ships will be dictated by port facilities and by gantry cycling time, we might do well to consider the modification of old tankers to carry gantries installed prior to an emergency with a follow-on capability derived from stockpiled gantries, erected as needed.

Other possibilities include the use of heavy lift helicopters, air cushion vehicles, and improved fast roll-on self-beaching lighters. These will challenge our ingenuity in devising a ready, deployable forward container terminal system. Such a system will be significant in terms of reduction in costs, inventory, manpower, and turnaround time.

As we look to the future, we face the additional challenge of making the most efficient use of new oncoming shipment capabilities. I refer specifically to the 747 and the C–5A aircraft. The 747 superjet can be configured to carry more than 350 passengers or more than 195,000 pounds of cargo. The C–5A has the capability to carry even larger loads, especially outsize cargo. With this greater capability, more items may be eligible for air transport. We should use this airlift to reduce pipleine costs, reduce inventories overseas, simplify packing, and provide better service. These aircraft will have an impact upon our entire distribution system, and may necessitate the use of a whole new family of containers, as well as new packaging materials and processes, and cargo handling equipment.

As I see it, the principal problems to which efforts should be addressed are:

- A substantial reduction in the time that material and goods have to await a ship, a truck, or an airplane.
- Simplification of documentation.
- Improvements in military packaging specifications.
- Increased standardization in unit quantities.
- Better ways to account for and trace shipments.
- Perhaps most important of all, we need to optimize the use of all transportation modes.

Since science and technology have provided us with the physical means for faster transportation, we should plan expeditiously to capitalize on these improvements. It seems to me that we have an excellent opportunity, through careful and farsighted planning, to help transportation customers save money by reducing the amount of capital tied up in inventories; by encouraging development of lighter weight, stronger, less costly packaging and packing materials and techniques; and by developing necessary safeguards to protect shipments from loss or theft.

It is becoming obvious that the best way to meet these challenges and manage, improve efficiency, and cut costs in these areas is to consider them as interdependent parts of the overall physical distribution function —not as separate entities. I am confident that, with the talent, experience, and expertise in industry and in DOD, these challenges will be met successfully.

Defense Department System Program Managers

[Editor's Note: The information on programs, personnel, and addresses and phone numbers in this listing is as current as is possible to obtain at the time we go to press.]

U.S. Army

Addresses for Army program managers:

AMC: Hq. Army Materiel Command
Washington, D.C. 20315
Ph: (202) OXford plus extension

AVSCOM: Army Aviation Systems Command
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St. Louis, Mo. 63166
Ph: (314) 26 plus extension

ECOM: Army Electronics Command
Fort Monmouth, NJ 07703
Ph: (201) 532–9000

MECOM: Army Mobility Equipment Command
4300 Goodfellow Blvd.
St. Louis, Mo. 63120
Ph: (314) 26 plus extension

MICOM: Army Missile Command
Redstone Arsenal, AL 35809
Ph: (205) 87 plus extension

MUCOM: Army Munitions Command
Dover, NJ 07801
Ph: (201) 32 plus extension

TACOM: Army Tank-Automotive Command
Warren MI 48090
Ph: (313) 756–1000

WECOM: Army Weapons Command
Rock Island, IL 61201
Ph: (309) 79 plus extension

Program Titles and Program Managers

Adv Aerial Wpn Sys
Col. Henry Bolz
AVSCOM (AMCPM–AAWS) Ext. 82927

Air Defense Control and Targets
Lt. Col. Robert P. Loshbough
MICOM (AMCPM–CT), Ext. 61493

Armored Recon Scout Vehicle
Lt. Col. Oscar Decker
TACOM (AMCPM–RSV), Ext. 33206

Army Area Communications
Col. Emmett Arnold
ECOM (AMCPM–AA) Ext. 2109/2853

Bombs & Related Components
Col. Charles Blaha,
MUCOM (AMCPM–BR) Ext. 83150

Chaparral/Vulcan
Col. William Arnold
AMC (AMCPM–CVADS) Ext. 21763/21783

Close Support Wpn Sys
Col. Sterling Post
WECOM (AMCPM–CSW) Ext. 46626

Container Systems
Col. Raymond D. Cramer
AMC (AMCPM–CS) Ext. 55152/53976

Deseret
Col. Max Etkin
(AMCPM–DE)
Fort Douglas, UT 84113
Ph: (801) 524–4123/4124

Dragon
Col. Robert Funke
MICOM (AMCPM–MW) Ext. 67194

GOER Vehicles
Col. Jere Sharp
TACOM (AMCPM–GOR) Ext. 2977

Hawk
Col. Harry Buzzett
MICOM (AMCPM–HA) Ext. 65609

Heavy Lift Transport Aviation Sys
Col. William McKeown
AVSCOM (AMCPM–FC) Ext. 86464/86465

Infrared Countermeasures
Mr. Edward Hollman
AVSCOM (AMCPM–IR) Ext. 83961

Lance
Col. Rutledge Hazzard
MICOM (AMCPM–LC) Ext. 66144

Land Combat Support Sys
Lt. Col. Frank Matthews
MICOM (AMCPM–LS) Ext. 68171

Light Observation Helicopter
Lt. Col. Edward Browne
AVSCOM (AMCPM–LH) Ext. 83741/83742

M–60 Tank Series
Mr. Charles Salter (Acting)
WECOM (AMCPM–M60) Ext. 42519/42489

M561/XM705 Trucks
Lt. Col. Donald Babers
TACOM (AMCPM–CG) Ext. 2638/2639

Main Battle Tank (XM803)
Brig. Gen. Bernard R. Luczak (Ret.)
AMC (AMCPM–MBT) Ext. 53724/50008

Manned Aerial Surveillance and Target Acquisition Sys
Lt. Col. John Love
AVSCOM (AMCPM–MASTS) Ext. 83995

Mechanized Infantry Combat Vehicle
Lt. Col. Peter Kenyon
TACOM (AMCPM–MCV) Ext. 34264

Mobile Electric Power

Col. J. J. Rochefort
AMC (AMCPM–MEP) Ext. 71152/71117

Navigation Control

Lt. Col. Chester McDowell
ECOM (AMCPM–NC) Ext. 4240

Night Vision

Col. Arthur Surkamp
(AMCPM–NV)
Army Mobility Equipment Research & Development Center
Fort Belvoir, Va. 22060
Ph: (202) 664–5491

Pershing

Col. S. C. Skemp Jr.
MICOM (AMCPM–PE) Ext. 61165

Rifles

Col. Rex Wing
WECOM (AMCPM–RS) Ext. 45546

2.75 Rocket System

Brig. Gen. Winfield Scott
MUCOM (AMCPM–RK) Ext. 82925

Safeguard Munitions

Col. Frank Healy
MUCOM (AMCPM–SAF) Ext. 85285

SAM-D

Col. James Miller
MICOM (AMCPM–MD) Ext. 63201

SATCOM

Col. Leland D. Wamsted
ECOM (AMCPM–SC) Ext. 1228

Selected Ammunition

Col. Kilbert Lockwood
MUCOM (AMCPM–SA) Ext. 83230

Selected Avionics Equipment for Army Aircraft

Lt. Col. Chesley Maddox
ECOM (AMCPM–AAE) Ext. 4685

Sensor Materiel Operations

Col. David Armstrong
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Sheridan

Col. Robert Noce
WECOM (AMCPM–SH) Ext. 46625

Shillelagh

Col. Robert Proudfoot
MICOM (AMCPM–SM) Ext. 63187

STARCOM

Col. Richard Swenson
ECOM (AMCPM–COM) Ext. 1582

TOW

Lt. Col. Robert Huntzinger
MICOM (AMCPM–TO) Ext. 65185

Utility Aircraft

Col. John Lauterbach
AVSCOM (AMCPM–UA) Ext. 83831

Vehicle Rapid Fire Weapon Systems

Col. Robert Noce
WECOM (AMCPM–VRF) Ext. 46625

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Safeguard System
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Computer Systems Command (CSC)
Ft. Belvoir, Va. 22060
Ph: (703) 664 plus extension

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Standard Supply System 3S

Mr. W.R. Benefiel Ext. 6403

Theater Army Support Command System TASCOM (S)

Mr. A.R. Kendall Ext. 6403

Tactical Operations System TOS

Col. T.E. Marriott Ext. 5942

Tactical Fire Direction System (TACFIRE)

Col. F.C. Spann Ext. 5039

Division Logistics System

Mr. C.A. Davis Ext. 6863

Division/Corps Combat Service Support System, and Quick Reaction Inventory Control Center

Lt. Col. A.W. Collier Ext. 1811

Base Operations System

Mr. B.W. Williams Ext. 1811

Personnel Management and Accounting—Card Processor System

1st. Lt. J.J. Roll Ext. 6863

Direct Support Unit/General Support Unit Computer System

Mr. P. Garner Ext. 6863

Centralization of Supply Management and Operations System

Mr. R.T. Rooney Ext. 6403

ASMIS (A)

Mr. L.N. Myers Ext. 6403

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Washington, D.C. 20360
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NAIR: Naval Air Systems Command
Washington, D.C. 20360
Ph: (202) OXford plus extension

NELEX: Naval Electronic Systems Command
Washington, D.C. 20360
Ph: (202) OXford plus extension

NORD: Naval Ordnance Systems Command
Washington, D.C. 20360
Ph: (202) OXford plus extension

NSHIPS: Naval Ship Systems Command
Washington, D.C. 20360
Ph: (202) OXford plus extension

Chief of Naval Material Designated Programs

Strategic Systems Project (SSP)
R. Adm. Levering Smith
NMAT (PM1), Ext. 52064

Antisubmarine Warfare (ASW) Systems
R. Adm. Parker B. Armstrong
NMAT (PM4), Ext. 22190

Navy Air Control and Identification Systems (NACIS)
Capt. Kenneth A. Horn
NMAT (PM6/8), Ext. 22546

Reconnaissance Electronic Warfare Special Operations and Naval Intelligence Systems
R. Adm. Julian S. Lake
NMAT (PM7), Ext. 22524

SSN 688 and Later Design SSN Submarine
R. Adm. Harvey E. Lyon
NMAT (PM13), Ext. 27201

Ship and Air Systems Integration (SASI)
Capt. Spencer E. Robbins
NMAT (PM15), Ext. 29166

Navy Space Project (NSP)
Capt. Robert K. Geiger
NMAT (PM16), Ext. 23747

Naval Air Systems Command Designated Programs

E2/ATDS Systems (Airborne Tactical Data Systems)
Capt. Joseph A. Pariseau
NAIR (PMA231), Ext. 28299

F–4 (RF–4) Sparrow III Systems
Capt. James T. Timidaiski
NAIR (PMA232), Ext. 28226

A–6/EA–6 Systems
Capt. Robert C. Mandeville
NAIR (PMA234), Ext. 28083

A–7 Aircraft System
Capt. John T. Shepherd
NAIR (PMA235), Ext. 23375

Versatile Avionics Shop Test Systems (VAST)
Capt. Samuel R. Chessman
NAIR (PMA238), Ext. 28087

P–3 Aircraft System
Capt. John R. Farrell
NAIR (PMA240), Ext. 23251

F–14 Phoenix Systems
Capt. L. E. (Mike) Ames Jr.
NAIR (PMA241), Ext. 28283

ARM/Shrike Systems
Capt. Donald Loranger
NAIR (PMA242), Ext. 22137

Walleye Weapon System
Capt. John R. Harper
NAIR (PMA243), Ext. 23256

S–3A Aircraft System
Capt. Fred H. Baughman
NAIR (PMA244), Ext. 28631

Condor Weapon System
Cdr. Kyle H. Woodbury
NAIR (PMA245), Ext. 23255

Airborne Weapon Systems
Capt. Glen E. Skinner
NAIR (PMA246), Ext. 23155

Joint Service Inflight Data Transmission System (JIFDATS)
Capt. William E. Payne Jr.
NAIR (PMA248), Ext. 33851

Jezebal (DIFAR) System
Cdr. Robert E. Hoare
NAIR (PMA249), Ext. 27174

Reconnaissance Electronic Warfare & Intelligence System (RENS)
Cdr. Harlan J. Bakke
NAIR (PMA253), Ext. 23288

Harrier Weapon System
Col. William L. Traynor, USMC
NAIR (PMA257), Ext. 28324

Antiship Weapon System (ASWS)
Capt. Claude P. Ekas
NAIR (PMA258), Ext. 28573

Naval Electronic Systems Command Designated Programs

Satellite Communications System (SATCOM)
Cdr. Harry H. Feit
NELEX (PME116), Ext. 22182

Special Communications System
Capt. Ferdinand L. Brand
NELEX (PME117), Ext. 28873

Omega System
Capt. James A. Burke
NELEX (PME119), Ext. 28844

Navy Special Sensor System
Capt. Joseph E. Fenwick
NELEX (PME121), Ext. 28826

Naval Ordnance Systems Command Designated Programs

MK 48
R. Adm. George G. Halvorson
NORD (PMO402), Ext. 28070

Surface Missile System (SMS)
Capt. Merrill H. Sappington
NORD (PMO403), Ext. 27395

Naval Ship Systems Command Designated Programs

Spanish Ship Support Management Office
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NSHIPS (PMS376), Ext. 28907

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NSHIPS (PMS377), Ext. 28803

Antiair Warfare Systems
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NSHIPS (PMS381), Ext. 27080

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NSHIPS (PMS383), Ext. 23507

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Capt. Russel L. Arthur
NSHIPS (PMS384), Ext. 28411

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Cdr. William E. Trueblood
NSHIPS (PMS385), Ext. 28646

AN/SQS–23 System
Cdr. Howard W. Oder
NSHIPS (PMS386), Ext. 20801

AN/SQS–26 System
Capt. Edward L. Alderman
NSHIPS (PMS387), Ext. 20709

Submarine Improved Sonar System (SISS)
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NSHIPS (PMS388), Ext. 21054

Destroyer DD963/DDG Ship Acquisition
Capt. John T. Collins
NSHIPS (PMS389), Ext. 26490

Underway Replenishment
Capt. Bernard A. Lienhard
NSHIPS (PMS390), Ext. 20518

Oceanographic, Mine, Patrol & Special Purpose Ship Acquisition
Capt. Earl B. Fowler
NSHIPS (PMS391), Ext. 23705

Nuclear-Powered Aircraft Carrier Acquisition (CVAN)
Capt. Robert J. Eustace
NSHIPS (PMS392), Ext. 27280

SSN 688 and Later Design SSN Submarine Acquisition
Capt. Charles E. Slonim
NSHIPS (PMS393), Ext. 27002

Acoustic Warfare Systems
Cdr. Terence B. Sutherland
NSHIPS (PMS394), Ext. 28490

Deep Submergence Systems Project (DSSP)
Capt. William M. Nicholson
NSHIPS (PMS395), Ext. 27308

U.S. Air Force

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Air Force Systems Command
Wright-Patterson AFB, OH 45433
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ESD: Electronic Systems Division
Air Force Systems Command
L.G. Hanscom Field, MA 01730
Ph: (617) 86 plus extension

SAMSO: Space & Missile Systems Organization
Air Force Systems Command
Los Angeles Air Force Station
Los Angeles, CA 90045
Ph: (213) 643–2100

Aeronautical

129A FB–111/A
Col. R. C. Mathis
ASD (YB), Ext. 53474

140A AGM–69A SRAM
Col. D. M. Falk
ASD (YG), Ext. 55811

226A/B AIM 7E, F&G Sparrow
Lt. D. Parham
ASD (SDQI), Ext. 55281

303G F–104G
Mr. G. Bondor
ASD (SDUR), Ext. 52326

304A AGM–78A Standard Arm
Lt. Col. J. T. McLaughlin
(Code PMA–242–3)
Naval Air Systems Command
Washington, DC 20360
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F–104S F104A/B/C/D
Mr. G. Bondor
ASD (SDUR), Ext. 52326

313A AGM–45A Shrike
Mr. E. Pember
ASD (SDQ), Ext. 52115

319A AGM 65A Maverick
Lt. Col. J. A. Abrahamson
ASD (SD65), Ext. 52158

324A/B F/RF–111A/E/D/F,
Col. R. C. Mathis
ASD (YB), Ext. 53474

326A F–4C/D/E
327A RF–4C
Col. H. B. Urey
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Naval Air Systems Command
Washington, D.C. 20360
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328A F15
Brig. Gen. B. N. Bellis
ASD (YF), Ext. 53111

334A YF–12
Lt. Col. R. E. Haydon
ASD (RWCK), Ext. 54734

335A A–37
Lt. Col. Joseph Meadows
ASD (SDQC), Ext. 55007

336A OV–10A FAC
Lt. Col. Jack Bond
ASD (SDUC), Ext. 54450

337A A–7D
Col. H. W. Stoneberger
(Code PMA–235–B)
Naval Air Systems Command
Washington, DC 20360
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400G AC–130
Lt. Col. R. Terry
ASD (SDT), Ext. 54274

410A C–5A

Brig. Gen. W. Newby
ASD (YA), Ext. 54301

412A Life Support Systems

Col. A. Lovelady
ASD (SML), Ext. 52406

414N Aircraft Crash & Fire Rescue Systems

Lt. Col. R. B. Artz
ASD (SMF), Ext. 55542

420A/B F–5A/B and
420L T–38

Col. E. M. Stringer
ASD (SD–5), Ext. 53356

424L T–37B/C

Mr. Tom Biggs
ASD (SDUC), Ext. 55068

429L BQM–34A and
429E BQM–34F

Mr. O. Witt
ASD (RDW), Ext. 52494

443Q UH–1H/N (Air Force)

Lt. Col. G. Brunsman
ASD (SDQH), Ext. 53337

463L Materials Handling

Lt. Col. F. McNamara
ASD (SMD), Ext. 55458

476L C–141

Mr. Jack Leet
ASD (SD–141), Ext. 52793

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485B CH–3C/HH–3E HLH

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ASD (SDQH), Ext. 53337

600 C–9A Aeromed

Mr. Jack Leet
ASD (SD–141), Ext. 52793

SR–71

Lt. Col. R. E. Haydon
ASD (RWCK), Ext. 54734

988H/J 02A/B

Mr. J. R. Noyes
ASD (SDQ), Ext. 54450

139 B–1 (Avionics)

Brig. Gen. D. T. Nelson
ASD (YH), Ext. 53281

Space Systems—Ballistic Missile Systems

133A/B/A–M Minuteman

Maj. Gen. K. W. Schultz
SAMSO (MM), Ext. 6014

191 TACSATCOM

Col. W. W. Sanders
SAMSO (SN), Ext. 30151

479A Nike Targets

Brig. Gen. A. B. Martin
SAMSO (RN), Ext. 1165

572 IDSCS

Col. W. W. Sanders
SAMSO (SN), Ext. 30151

642A SLV–5

Col. W. J. Henderson
SAMSO (LVT), Ext. 30734

627 ABRES

Brig. Gen. A. B. Martin
SAMSO (RN), Ext. 1165

683A Vela Satellite

Lt. Col. A. F. Bishop
SAMSO (SZB), Ext. 31954

698AJ Adv Space Tech

(vacant)
SAMSO

777 DSCS

Col. W. W. Sanders
SAMSO (SN), Ext. 30151

4625 SESP

Lt. Col. W. R. Lounsberry
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ASD (RWFKD), Ext. 53035

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Col. R. R. Frederick
ASD (RWJ), Ext. 55116

430A Interim TIPI
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ASD (RWJ), Ext. 54418

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ASD (YF), Ext. 54228

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Lt. Col. F. M. Charette
SAMSO (XRLO), Ext. 32154

A–X
Col. J. E. Hildebrandt
ASD (SDX), Ext. 52111

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ASD (XRL), Ext. 53124

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